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OBSTETRICAL TRANSACTIONS.

VOL. XIII.

TRANSACTIONS

OF THE

OBSTETRICAL SOCIETY

OF

LONDON.

VOL. XIII.

FOR THE YEAR 1871.

WITH A LIST OF OFFICERS, FELLOWS, ETC.

LONDON:
LONGMANS, GREEN, AND CO.
1872.

PRINTED BY J. E. ADLARD, BARTHOLOMEW CLOSE.

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1863 Beatty, Thomas Edward, M.D., M.R.I.A., &c., late Professor of Midwifery at the Royal College of Surgeons of Ireland, President of the King's and Queen's College of Physicians of Ireland; 78, Merrion square north, Dublin.

1862 Churchill, Fleetwood, M.D., Professor of Midwifery, King's and Queen's College of Physicians, Ireland; 15, Stephen's green north, Dublin.

1862 McClintock, Alfred H., M.D., late Master of the Lying-in Hospital; 21, Merrion square north, Dublin.

1862 Duncan, James Matthews, M.D., A.M., Lecturer on Midwifery and Diseases of Women and Children, Surgeon's Hall; 30, Charlotte square, Edinburgh.

1870 Farre, Arthur, M.D., F.R.S., Physician-Accoucheur to H.R.H. the Princess of Wales; 12, Hertford street, Mayfair.

1862 Hall, Archibald, M.D., Professor of Midwifery, University of McGill College, Montreal, Canada.

Elected

1871 KEILLER, ALEXANDER, M.D., F.R.S. Ed., Physician to the Royal Maternity Hospital, Lecturer on Midwifery and Diseases of Women and Children at the Surgical Hall, Edinburgh.

1871 KIDD, GEORGE H., M.D., F.R.C.S.I., Obstetrical Surgeon to the Coombe Lying-in Hospital, and Examiner in Midwifery at the Queen's University and Royal College of Surgeons of Ireland; 30, Merrion square south, Dublin.

1871 TRACY, RICHARD T., M.D., Physician to the Lying-in Hospital, Melbourne, Victoria.

1870 WEST, CHARLES, M.D., F.R.C.P., Physician to the Hospital for Sick Children; 61, Wimpole street, Cavendish square.

FOREIGN SUBJECTS.

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1862 CHANNING, WALTER, M.D., late Professor of Midwifery in the University of Cambridge, Boston, U.S.

1863 DEPAUL, JEAN ANNE HENRI, M.D., Paris.

1863 FAYE, F. C., Professor of Midwifery in the University of Christiania.

1864 HECKER, C., Munich.

1866 HUGENBERGER, THEODOR, M.D., Professor at the Maternity of Her Imp. Highness Madame the Grand Duchess Helena Pawlowna, St. Petersburgh.

1866 LAZAREWITCH, J., Kharkoff, Russia.

1863 MARTIN, EDUARD, M.D., Director of the Institute for Clinical Midwifery at the University, Berlin.

1864 PAJOT, CH., M.D., Professor of Midwifery to the Faculty of Medicine, Paris.

1866 RIZZOLI, FRANCESCO, Bologna.

1862 SCANZONI, F. W. VON, M.D., Professor of Midwifery, Würzburg.

1864 SIMS, J. MARION, M.D., late Surgeon to the Women's Hospital, New York.

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1862 VIRCHOW, RUDOLF, M.D., Professor of Pathological Anatomy in the University of Berlin.

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JANUARY, 1872.

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1869 ADAMS, THOMAS RUTHERFORD, M.D., Surgeon to the Croydon General Hospital; 1, Ottoman villas, St. James's road, West Croydon.

1859 ALDERSEY, William Hugh, M.B. Lond., F.R.C.S., South Hayling Island, Havant, Hants.

1871 ALDERSON, FREDERICK H., 1, Avenue terrace, Bridge Avenue, Hammersmith.

1861 ALDRIDGE, JOHN PETTY, M.D., Shirley House, Dorchester.

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1871 ARMSTRONG, ALFRED, M.D., East Cowes Villa, Lower Norwood, Surrey.

1861 ARMSTRONG, JOHN, M.D., Gravesend, Kent.

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1859 Ayling, William Henry, L.R.C.P. Ed., 103, Great Portland street, W.

1864 Baker, G. Benson, 42, Grove road, St. John's wood, N.W.

1867 Baker, John C., M.D., F.R.C.S. Ed.; 132, Duke street, Liverpool.

1859 Baker, John Wright, Surgeon to the Derbyshire General Infirmary; 102, Friar gate, Derby.

1859 Ballard, Thomas, M.D., 10, Southwick place, Hyde park, W.

1859 Bannister, John Henry, 436, Oxford street, W.

1869 Bantock, George Granville, M.D., 44, Cornwall road, Westbourne park, W.

1863 Barker, Edward, F.R.C.S., Senior Surgeon to the Melbourne Hospital, Victoria.

1859 Barnes, Robert, M.D., F.R.C.P., Obstetric Physician to and Lecturer on Midwifery at, St. Thomas's Hospital; Physician to the Royal Maternity Charity; 31, Grosvenor street, W. *Vice-Pres.* 1859-60. *Council*, 1861-62, 1867-72. *Treas.* 1863-64. *Pres.* 1865-66.

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1867 Basan, Horace, F.F.P. & S. Glasg., L.R.C.P. Ed., Prebyn, Bedford.

1866 Bassett, John, Professor of Midwifery at the Queen's College, Birmingham; 144, Hockley Hill, Birmingham.

1859 Bateman, Henry, F.R.C.S., 32, Compton terrace, Canonbury, Islington, N.

1867 Batten, Rayner W., M.D., Physician to the Gloucester General Infirmary; 1, Brunswick square, Gloucester.

1859 Battye, Richard F., M.R.C.P. Ed., 6 Gloucester street, Belgrave road, Pimlico, S.W.

1871 Beach, Fletcher, House Surgeon, Children's Hospital, Great Ormond street.

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1868 Beigel, Hermann, M.D., Physician for the Department of Skin Disease at Charing Cross Hospital, Physician to the Metropolitan Free Hospital; 39, Queen's road, Brownswood park, N.

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1871 Bell, Robert, M.D. Glasg., 50, Woodland road, Glasgow.

1867 Bennet, William Ford, Westgrove House, Emsworth, Hants.

1859 Berry, Samuel, F.R.C.S., Consulting Surgeon-Accoucheur to the Queen's Hospital, and Professor of Midwifery and the Diseases of Women and Children in the Queen's College; Hatfield House, 281, Hagley road, Edgbaston, Birmingham. *Vice-Pres.* 1859. *Hon. Loc. Sec.*

1859 Billinghurst, Henry, M.D., Hundalee, Widmore lane, Bromley, Kent.

1859 Bird, Frederic, M.D., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women at, the Westminster Hospital, Senior Physician to the Westminster Maternity Charity; 13, Grosvenor street, W. *Council*, 1859.

1868 Black, James Watt, M.D., Obstetric Physician to the Charing Cross Hospital; 15, Clarges street, Piccadilly, W. *Council* 1872.

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1866 Brodie, George B., M.D., Physician to Queen Charlotte's Lying-in Hospital, 56, Curzon street, Mayfair, W.

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1859 Bryant, Walter John, F.R.C.S., L.R.C.P. Ed., 23a, Sussex square, Hyde park gardens, W. *Council*, 1859.

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1862 Burton, John Moulden, F.R.C.S., Lee park Lodge, Lee, Kent, S.E. *Council*, 1868-69.

1870 Burzorjee, Burzorjee Dorabjee, Graduate of Grant Medical College, Bombay. *Hon. Loc. Sec.*

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1868 Butler, William Harris, L.R.C.P. Ed., 15, Thomas street, Woolwich.

1868 Butt, William Frederick, 12, South street, Park lane, W.

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1861 CARTER, ALBERT PLEYDELL, Wellington House, 43, London road, Gloucester.

1869 CASKIE, JOHN BOYD, M.D., 89, Goswell road, E.C.

1869 CASS, WILLIAM CUNNINGHAM, 20, St. George's road, S.W.

1865 CASSELS, THOMAS, M.D., 38, Denbigh street, Warwick square, S.W., and 7, Bolton row, May Fair, W.

1870 CAUSTON, WILLIAM HENRY, Kingston-on-Thames.

1863 CAYZER, THOMAS, Mayfield, Aigburth, Liverpool.

1864 CHAMBERS, THOMAS, 2A, Sutherland street, Warwick square, S.W., and 7, Bolton row, May Fair.

1859 CHANCE, EDWARD JOHN, F.R.C.S., Surgeon to the Metropolitan Free Hospital and City Orthopædic Hospital; 59, Old Broad street, City, E.C.

1862 CHAPMAN, WALTER, F.R.C.S., Lower Tooting, Surrey.

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1859 Clark, James Fenn, 18, York terrace, Leamington. *Hon. Loc. Sec.*

1862 Clarke, John, Lynton, North Devon.

1859 Clay, Charles, M.D., late Lecturer on Midwifery and Clinical Medicine in St. Mary's Hospital, Manchester; 101, Piccadilly, Manchester. *Council*, 1863-65.

1859 Clay, John, Professor of Midwifery, Queen's College, Birmingham; Allan House, 138–9, Steelhouse lane, Birmingham. *Council*, 1868-69. *Vice-Pres.* 1872.

1859 Clayton, Oscar, F.R.C.S., Extra Surgeon-in-Ordinary to H.R.H. the Prince of Wales, and Surgeon-in-Ordinary to H.R.H. the Duke of Edinburgh, 5, Harley street, W.

1859 Cleveland, William Frederick, M.D., Stuart Villa, 199, Maida vale, W. *Council*, 1863-64.

1861 Clogg, Stephen, East Looe, Cornwall.

1865* Coates, Charles, M.D., Physician to the Bath United General Hospital; 10, Circus, Bath.

1860 Cockell, Edgar, Holly Lodge, Forest road, Dalston, N.E.

1859 Cockell, Frederick Edgar, 1, Alma villas, Dalston, N.E.

1861 Cocker, John, M.D., F.R.C.P. Ed., Bank Hey, Blackpool, near Preston, Lancashire.

1861 Collingwood, William, 15, St. Thomas street, Southwark, S.E.

1866 Coombs, James, M.D., Bedford.

1864 Cooper, George Henry C., M.D., Surgeon to the Holloway and N. Islington Dispensary; Surgeon-Accoucheur to the Royal Maternity Charity; 35, Compton terrace, Islington, N.

1861 Cooper, John, M.R.C.P. Ed., Clapham rise, S.W.

1865 Copeman, Edward, M.D., Physician to the Norfolk and Norwich Hospital; Upper King street, Norwich. *Council*, 1869-71. *Hon. Loc. Sec.*

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1866 Cornwall, James, F.R.C.S., Fairford, Gloucestershire.

1860 Corry, Thomas Charles Steuart, M.D., L.R.C.P. Ed., Senior Surgeon to the Belfast General Dispensary; 9, Clarendon place, Belfast. *Council*, 1867. *Hon. Loc. Sec.*

1859 Cory, Frederick Charles, M.D., Portland Villa, Buckhurst hill, Essex. *Council*, 1867-69.

1863 Coward, John W., Christchurch, Canterbury, New Zealand [agents: Messrs. Alfred Hill and Sons, 11, Little Britain]. *Hon. Loc. Sec.*

1869 Cox, Richard, L.R.C.P. Ed., Theale, near Reading.

1870 Craigie, John, M.D., Reigate, Surrey.

1859 Croft, J. McGrigor A. T., M.D., M.R.C.P., 8, Abbey road, St. John's Wood, N.W.

1866 Croft, Robert Charles, L.R.C.P. Ed., 204, Camden road, N.W.

1861 Croskery, Hugh, L.R.C.S. Ireland; Clerk in Holy Orders, Government Medical Officer, Chapelton, Jamaica [agents: Messrs. Burgoyne, Burbidges and Squire, 16, Coleman streeet, E.C.].

1860 Cross, Richard, M.D., 5, Queen street, Scarborough, Yorkshire.

1869 Cross, Robert Shackleford, Petersfield, Hants.

1867 Croucher, Henry, West Hill, Dartford, Kent.

1859 Culpeper, William Moe, 1, Brunswick Terrace, Palace gardens, Kensington, W.

1862 Cumberbatch, Laurence Trent, M.D., 25, Cadogan place, Belgrave square, S.W. *Council*, 1868-70.

1867 Cuolahan, Hugh, M.D., 9, Grange road, Bermondsey, S.E.

1859 Curgenven, J. Brendon, 11, Craven hill gardens, Bayswater, W. *Council*, 1870-72.

1868 Daly, Frederick Henry, M.D., 101, Queen's road, Dalston, N.E.

1870 Daniel, William Abbot, Kingston-on-Thames.

Elected

1859 Davis, John Hall, M.D., F.R.C.P., Obstetric Physician to, and Lecturer on Midwifery and Diseases of Women and Children at, the Middlesex Hospital; Physician to the Royal Maternity Charity; Consulting Physician-Accoucheur to the St. Pancras Infirmary; 24, Harley street, Cavendish square, W. *Council*, 1859, 1864-65, 1869-72. *Vice-Pres.* 1861-63. *Pres.* 1867-68.

1863 Davis, Robert Alex., M.D., L.R.C.P. Ed. (exam.), Resident Physician, County Asylum, Burntwood, near Lichfield, Stafford.

1859 Day, William Henry, M.D., Physician to the Samaritan Free Hospital, and to the Margaret street Infirmary for Consumption; 10, Manchester square, W.

1866 Deans, John, The Elms, Crawley, Sussex.

1861 De la Motte, Henry D. C., Swanage, Dorset.

1869 Dempsey, Joseph Maldon, M.D., 27, Charterhouse square, E.C.

1859 Denny, John, L.R.C.P. Ed., 1, Sumner terrace, Onslow square, Brompton, S.W.

1860 Dickenson, John, F.R.C.S., Hon. Surgeon to the Wrexham Infirmary; Wrexham, Denbighshire.

1859 Dickson, Joseph, M.D., 56, Bath street, Jersey.

1859 Dixon, John, M.D., 108, Grange road, Bermondsey, S.E.

1870 Dodsworth, Frederick C., Junr., Oxford Villa, Turnham green, Middlesex, W.

1859 Drage, Charles, M.D., Hatfield, Herts. *Council*, 1861-4.

1859 Druitt, Robert, M.R.C.P., 37, Hertford street, Mayfair, W. *Council*, 1859-60. *Vice-Pres.* 1862-64.

1859 Druitt, William, F.R.C.S., Wimborne, Dorset.

1859 Duncan, James, M.B., 8, Henrietta street, Covent garden, W.C.

1859 Duncan, Peter Charles, M.D., 32, New Cross road, New Cross, S.E.

1867 Dunderdale, William, M.D., Poulton Le Fylde, Lancashire.

Elected

1859 DUNN, ROBERT, F.R.C.S., 31, Norfolk street, Strand, W.C. *Council*, 1860. *Vice-Pres.* 1861-62.

1859* EASSON, JAMES, Stoke Pogis, Slough, Buckinghamshire.

1871 EASTES, GEORGE, M.B., F.R.C.S., Surgeon-Accoucheur to the Western General Dispensary, 5, Albion place, Hyde park square, W.

1866 EASTON, JOHN, M.D., 20, Connaught square, Hyde park, W.

1867 EDIS, ARTHUR W., M.D., Assistant-Physician to the Hospital for Women, Soho Square; 23, Sackville street, W.

1861 EDWARDS, THOMAS EDWIN, L.R.C.P. Lond.; 98, Gloucester crescent, Hyde park, W.

1866 ELLIOTT, ROBERT ARTHUR, the Staff-Surgeon, Curragh Camp, Divisional Staff Lines, Dublin.

1862 ELLIS, EDWARD, M.D., Physician to the Victoria Hospital for Children; 118, Warwick street, Belgravia, S.W.

1861 ELLIS, ROBERT, Obstetric Surgeon to the Chelsea, Brompton, and Belgrave Dispensary; 63, Sloane street, S.W. *Council*, 1868-70.

1862 ELLISON, JAMES, M.D., Surgeon to H.M.'s Household, Windsor; 14, High street, Windsor, Berks.

1871 EVANS, THOMAS WALTER, 101, Heyworth street, Everton, Liverpool.

1865 FAIRBANK, THOMAS, M.D., Surgeon to H.M. the Queen and the Royal Household, Windsor Castle; Moulsey House, Windsor, Berks.

1859 FAIRCLOTH, RICHARD, F.R.C.S., Newmarket, Cambridgeshire.

1867 FAIRLAND, EDWIN JAMES, L.R.C.P. Ed., Staff Assistant-Surgeon, 21st Hussars, Lucknow, Oude [*per* Horace E. Golding, Esq., 68, Lincoln's Inn Fields].

1869 FARQUHAR, WILLIAM, M.D., Surgeon, and Assistant Garrison-Surgeon, Bangalore, East Indies.

1861 FARR, GEO. F., L.R.C.P. Ed., 20, West square, Southwark, S.E.

Elected

1868 Fegan, Richard, M.D., 1, Charlton Park terrace, Old Charlton, Kent.

1859 Fergusson, Sir William, Bart., F.R.C.S., F.R.S., Sergeant Surgeon to H.M. the Queen, Professor of Surgery in King's College and Surgeon to King's College Hospital, Consulting Surgeon to the Samaritan Free Hospital; 16, George street, Hanover Square, W. *Vice-Pres.* 1862-63.

1869 Fergusson, William Edward Laing, M.D., 45, Claremont square, Pentonville, N.

1861 Fetherston, Gerald H., M.D., L.R.C.P. Ed.; Hon. Physician to the Melbourne Lying-in Hospital, Prahran, Melbourne, Victoria. *Hon. Loc. Sec.*

1869 Fisher, C. Holdrich, M.D., Sittingbourne, Kent.

1870 Fisher, John Moore, M.D., 29 ,Norfolk street, Strand, W.C.

1868 Fletcher, Edward, Lygon street, Carlton, Melbourne, Victoria.

1865 Fowler, James, F.S.A., Hon. Surgeon to the Clayton Hospital and Wakefield General Dispensary; 13, South Parade, Wakefield. *Council*, 1872. *Hon. Loc. Sec.*

1866 Fox, Cornelius Benjamin, M.D., South Cliff, Scarborough.

1862 Frain, Joseph, M.D., Hon. Surgeon to the South Shields Dispensary; Frederick street, South Shields.

1861 Frankland, Thomas Thrush, Surgeon to the Ripon Dispensary, Ripon, Yorkshire.

1867 Freeman, Henry W., 24, Circus, Bath.

1867 Fryer, Charles, L.K.Q.C.P. Ireland; Richmond place, Openshaw, Manchester.

1867 Fuller, Charles C., 29, Albany street, Regent's park, N.W.

1863 Galton, John H., Three Oak villa, Thicket road, Upper Norwood, S.E.

1863 Garman, Henry Vincent, Kent House, Bow road, E.

1859 Gaskoin, George, 7, Westbourne park, W. *Council*, 1870-72.

1869 Geikie, Walter B., M.D., F.R.C.S. Ed., Lecturer on Clinical Medicine in the Toronto School of Medicine, Toronto, Ontario, Canada.

Elected

1859 GERVIS, HENRY, M.D., Assistant Obstetric Physician to, and Lecturer upon Forensic Medicine at, St. Thomas's Hospital; Consulting Physician to the Deaf and Dumb Asylum, and to the Asylum for Fatherless Children; 12, St. Thomas's street, Southwark, S.E. *Council*, 1864-66. *Hon. Sec.* 1867-70. *Vice-Pres.* 1871-2.

1866 GERVIS, FREDERICK HEUDEBOURCK, 1, Fellowes road, Hampstead, N.W.

1866 GIDDINGS, WILLIAM KITTO, L.R.C.P. Ed., Shaftesbury House, Calverley, near Leeds, Yorkshire.

1860 GILL, SAMUEL LAWRENCE, L.R.C.P. Ed., 4, Campbell terrace, Bow road, E.

1869 GILL, WILLIAM, 43, Woburn place, Russell square, W.C.

1867 GITTINS, JOHN, L.R.C.P. Ed., St. Olave's Union, Parish street, Southwark, S.E.

1871 GODDARD, EUGENE, 27, Pentonville road, N.

1869 GODDEN, JOSEPH, L.K.Q.C.P. Ireland; Sudley House, Claughton Firs, Birkenhead.

1871 GODSON, CLEMENT, Surgeon-Accoucheur to the City of London Lying-in-Hospital, and Medical Registrar to the Evelina Hospital; 74, Park street, Grosvenor square, W.

1868 GODWIN, ASHTON, M.D., 11, Pelham crescent, Brompton, S.W.

1861 GOSS, SAMUEL DAY, M.D., F.R.G.S., 111, Kennington park road, S.E. *Council*, 1871-2.

1869 GOSS, TREGENNA BIDDULPH, 31, The Paragon, Bath.

1861 GREAM, GEORGE THOMPSON, M.D., F.R.C.P., Physician-Accoucheur to H.R.H. the Princess of Wales; 2, Upper Brook street, Grosvenor square, W. *Council*, 1862-63. *Vice-Pres.* 1864-66.

1859 GREENHALGH, ROBERT, M.D., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Bartholomew's Hospital; Consulting Physician to the Samaritan Free Hospital, and to the City of London Lying-in Hospital; 72, Grosvenor street, W. *Council*, 1863, 1867-69. *Vice-Pres.* 1864-66.

Elected

1863 Griffith, G. de Gorrequer, Physician to the Hospital for Women and Children, Pimlico; Physician-Accoucheur to St. Saviour's Maternity; 9, Lupus street, St. George's square, S.W.

1869 Griffith, John T., M.D., Talfourd House, Camberwell.

1859 Griffith, Thomas Taylor, F.R.C.S., Consulting Surgeon to the Wrexham Infirmary; Wrexham, Denbighshire. *Council*, 1870-72.

1870 Grigg, William Chapman, M.D., Physician to Queen Charlotte's Lying-in Hospital; 6, Curzon street, May fair.

1859 Grimsdale, Thos. F., L.R.C.P. Ed., Consulting Surgeon to the Lying-in Hospital, and late Lecturer on Diseases of Children, &c., at the Royal Infirmary School of Medicine; 29, Rodney street, Liverpool. *Council*, 1861-62.

1870 Gross, Reuben, M.D. [care of Messrs. J. and A. Macmillan], St. John's, New Brunswick, Canada.

1865 Gwyn, George F., Westcroft House, Hammersmith, W.

1867 Hadaway, James, L.R.C.P. Ed., 47B, Welbeck street, Cavendish square, W.

1859 Haden, Francis Seymour, F.R.C.S., 62, Sloane street, S.W. *Council*, 1861-63, 1868-70. *Vice-Pres.* 1865-67.

1859 Hall, Alfred, M.D., Senior Physician to the Brighton Dispensary; 30, Old Steyne, Brighton. *Council*, 1864-65. *Vice-Pres.* 1866-68. *Hon. Loc. Sec.*

1859 Hall, Frederick, 1, Jermyn street, St. James's, S.W.

1867 Hall, John Henry Wynne, L.R.C.P. Ed., 6, Portland place, 118, Wandsworth road, S.W.

1862 Hall, William, Lecturer on Physiology and Diseases of Women and Children, Leeds School of Medicine; Hillary place, Leeds. *Hon. Loc. Sec.*

1871 Hallowes, Frederick B., Redhill, Reigate, Surrey.

1860 Hardey, Key, Surgeon to the West City Dispensary; 4, Wardrobe place, Doctors' Commons, E.C.

Elected

1869 HARDINGE, HENRY, M.D., Physician to the Great Northern Hospital; 18, Grafton street, Bond street, W.

1859 HARPER, PHILIP H., F.R.C.S., 30, Cambridge street, Hyde park, W.

1859 HARRINSON, ISAAC, F.R.C.S., Castle street, Reading, Berks. *Council*, 1862-65. *Hon. Loc. Sec.*

1862 HARRIS, CHARLES, M.D., Northiam, Ashford, Kent.

1871 HARRIS, CHARLES JAMES, 54, Broad street, Golden square, W.

1861 HARRIS, HERBERT ROBEY, 52, Bolton street, Bury, Lancashire.

1867 HARRIS, WILLIAM H., M.D., Ostacamund, Neilgherries, India [agent: Mr. H. K. Lewis, Gower street].

1861 HARRIS, WILLIAM JOHN, 13, Marine Parade, Worthing.

1865 HARVEY, ROBERT, M.D., Civil Surgeon of Bhurtpore, near Agra, India [*viâ* Bombay]. [Per Alex. Harvey, M.D., 228, Union street, Aberdeen.]

1859 HARVEY, WILLIAM, 48, Lonsdale square, Islington, N.

1861 HAVILAND, EDWARD SAVAGE, M.D., 466, Edgware road, W.

1868 HAY, THOMAS BELL, L.R.C.P. Ed.; 43, Caledonian road, N.

1865 HAYES, HAWKESLEY ROCHE, Basingstoke, Hants.

1862 HAYMAN, CHARLES CHRISTOPHER, M.D., 22, Grand Parade, Eastbourne, Sussex.

1869 HAYWARD, SIDNEY, M.D., Overton, Hampshire.

1864 HEAD, EDWARD, M.B., Obstetric Physician to, and Lecturer on Midwifery at, the London Hospital; 91, Harley street, W. *Council*, 1870-71.

1867 HEMBROUGH, JOHN WILLIAM, Waltham, Grimsby.

1869 HEMSTED, HENRY, Whitchurch, Hants.

1870 HENDERSON, ALEXANDER, 2, Meadow Bank place, Partick, Glasgow.

1860 HESS, AUGUSTUS, M.D., Physician to the Jews' Hospital, Norwood; 14, Artillery place, Finsbury square, E.C.

Elected

1859 Hewitt, Graily, M.D., F.R.C.P., Professor of Midwifery in University College, London, and Obstetric Physician to University College Hospital; 36, Berkeley square, W. *Hon. Sec.* 1859-64. *Treas.* 1865-66. *Vice-Pres.* 1867-68. *Pres.* 1869-70. *Council*, 1871-2.

1862 Hewitt, Tom Smith, M.D., Ivy Cottage, Winkfield, Windsor, Berks.

1867 Hickinbotham, James, L.R.C.P. Ed., 10, Park road, Nechells, Birmingham.

1860 Hicks, John Braxton, M.D., F.R.C.P., F.R.S., Physician-Accoucheur to, and one of the Lecturers on Midwifery and the Diseases of Women and Children at, Guy's Hospital; Physician to the Royal Maternity Charity, and to the Royal Infirmary for Discases of Children and Women, Waterloo road; 9, St. Thomas's street, Southwark, S.E. *Council*, 1861-62, 1869. *Hon. Sec.* 1863-65. *Vice-Pres.* 1866-68. *Treas.* 1870. *Pres.* 1871-2.

1860 Higgs, Thomas Frederic, L.R.C.P. Ed., 194, High street, Dudley, Worcestershire.

1868 Hime, Thomas Whiteside, M.B., 217, Glossop road, Sheffield.

1865 Hodder, Edward M., M.D., Lecturer on Obstetrics, Toronto School of Medicine; Toronto, Canada West. *Hon. Loc. Sec.*

1859 Hodges, Richard, M.D., F.R.C.S., 1, Montagu street, Portman square, W.

1859 Hodgson, George Frederick, 52, Montpellier road, Brighton.

1864 Hoffmeister, William Carter, M.D., Surgeon to the Queen in the Isle of Wight; Clifton House, Cowes, Isle of Wight.

1871 Hogg, Francis Roberts, M.D., Assistant-Surgeon Royal Artillery, Woolwich.

1859 Holman, Constantine, M.D., Reigate, Surrey. *Council*, 1867-69. *Vice-Pres.* 1870-71.

1860 Holman, Henry Martin, M.D., Hurstpierpoint, Sussex.

Elected

1864 Hood, Wharton Peter, M.D., 65, Upper Berkeley street, Portman square, W.

1866 Horniblow, Richard E. Brain, M.D., 24, Lansdowne place, Leamington.

1861 Horton, George Edward, 31, Wolverhampton street, Dudley, Worcestershire.

1864 Houghton, Henry George, L.K.Q.C.P. Ireland; 6, Mount street, Grosvenor square, W.

1859 Hussey, Edward Law, F.R.C.S., Senior Surgeon to the Radcliffe Infirmary, and Consulting Surgeon to the County Lunatic Asylum and the Warneford Asylum; 8, St. Aldate's, Oxford.

1859 Hutchinson, Jonathan, F.R.C.S., Surgeon to the London Hospital; 4, Finsbury circus, E.C. *Council*, 1869-71.

1870 Huthwaite, Charles, L.R.C.P. Ed., Stratford square, Nottingham.

1861 Hutton, Charles, M.D., Physician to the General Lying-in Hospital; 26, Lowndes street, Belgrave square, S.W.

1859 Ilott, James William, Bromley, Kent.

1859 Image, William Edmund, F.R.C.S., Senior Surgeon to the Suffolk General Hospital; Bury St. Edmund's, Suffolk. *Council*, 1870-72.

1870 Izod, Freeman, Tottenham, Middlesex.

1864 Jackson, Edward, M.B., Surgeon to the Sheffield Hospital for Women; Fern Bank, Glossop road, Sheffield.

1864 Jackson, Robert, M.D., 53, Notting Hill square, W.

1868 James, Alfred, M.D., Perry Vale, Forest Hill, S.E.

1859 James, Henry, F.R.C.S., Elmhurst, Weybridge, Surrey. *Council*, 1862-63.

1862 Jay, Frederick Fitzherbert, Valley Bridge House, South Cliff, Scarboro', Yorkshire.

1863 Jenkins, Robert W., 13, Charlotte street, Bedford square, W.C.

1859 Jennings, Joseph C. S., Abbey House, Malmesbury, Wilts.

Elected

1860 Jepson, Henry, F.R.C.S., Surgeon to the Kingston Dispensary; Hampton, Middlesex, S. W.

1862 Johnson, Edward, M.D., 19, Cavendish place, Cavendish square, W.

1861 Jones, Edward, M.D, The Park, Sydenham, Kent.

1868 Jones, Evan, Ty-Mawr, Aberdare, Glamorganshire.

1859 Jones, George, 12, New Hall street, Birmingham.

1868 Jones, John, 60, King street, Regent street, W.

1866 Jones, Robert, 19, Stretford road, Hulme, Manchester.

1868 Jones, William, L.R.C.P., Ty-Newydd, Ruabon, Denbighshire.

1870 Jones, William, Greenfield House, Glynneath, Neath, Glamorganshire.

1868 Jordan, William Ross, Manor House, Moseley, near Birmingham.

1867 Junker, F. Ethelbert, M.D., 36, Mount street, Grosvenor square, W.

1859 Keele, George Thomas, 81, St. Paul's road, Highbury, N.

1868 Kenyon, George A., M.B., 3, Norfolk terrace, Gipsy Hill, Upper Norwood, Surrey.

1865* Kernot, George Charles, M.D., 3, Chrisp street, Poplar, E.

1859 Kiallmark, Henry Walter, 66, Prince's square, Westbourne grove, W.

1869 Kingsford, C. Dudley, M.D., Upper Clapton, N.E.

1860 Kingsford, Edward, F.R.C.S., Surgeon to the Sunbury Dispensary; Sunbury, Middlesex.

1862 Kirkpatrick, John Rutherford, M.B. Dubl., Examiner in Midwifery, Royal College of Surgeons, Ireland; 32, Rutland square, Dublin. *Council*, 1872.

1860 Kisch, Joseph, 2, Circus place, Finsbury circus, E.C.

1867 Knaggs, Henry G., M.D., 72, Kentish Town road, N.W.

1867 Langford, Charles P., 187, Goswell road, E.C.

1859 Langmore, John Charles, M.B., F.R.C.S., 12, Sussex gardens, Hyde park, W. *Council*, 1861-64. *Vice-Pres.* 1869-71.

Elected

1866 Langston, Thomas, L.R.C.P. Ed., 29, Broadway, Westminster, S.W.

1862 Lanphier, Richard, M.B. Dubl., Alford, Lincolnshire.

1867 Leaf, Walter, Surgeon to the St. Marylebone General Dispensary; 14, Furnival's Inn, Holborn, E.C.

1859 Lee, Newton B. C., 26, Hanley road, Hornsey rise, N.

1859 Leech, Edward, Pallant, Chichester, Sussex.

1860 Leishman, William, M.D., Physician to the University Lying-in Hospital, Regius Professor of Midwifery in the University of Glasgow; 156, Bath street, Glasgow. *Council*, 1866-68. *Vice-Pres.* 1869-70.

1868 Leslie, William Burnup, M.D., Stonehaven, Kincardineshire.

1870 Ligertwood, John, M.D., late Assistant-Surgeon, R.N., China Expedition; Methlick, Aberdeenshire.

1868 Llewellyn, Evan, L.R.C.P. Ed., 9, Mount place, London Hospital, E.

1859 Locock, Sir Chas., Bart., M.D., F.R.C.P., 26, Hertford street, Mayfair, W. *Honorary President.*

1859 Lombe, Thomas Robert, M.D., Bemerton, Torquay.

1870 Long, Mark, M.D., Surgeon to the Poplar Hospital; 93, Richmond road, Dalston, N.E.

1861 Love, Gilbert, Wimbledon, Surrey, S.W.

1866 Lovegrove, Charles, M.D., 18, Westbourne place, Eaton square, S.W.

1862 Lowe, George, F.R.C.S., Burton-on-Trent, Staffordshire.

1869 Lowndes, Frederick Walter, 62, Mount Pleasant, Liverpool.

1866 Lucey, William Cubitt, M.D., Norfolk villas, Junction road, Upper Holloway, N.

1869 Lydall, Wykeham H., 19, Mecklenburgh square, W.C.

1868 Lynch, J. Roche, 41, Chepstow villas, Westbourne grove.

1871 McBeath, William, M.D., Long street, Atherstone, Warwickshire.

1871 McCallum, Duncan Charles, M.D., Montreal, Canada.

Elected

1871 M'Conkey, Thomas Clarkson, M.D., McGill University; Barrie, Ontario, Canada.

1859 Mackinder, Draper, M.D., Consulting-Surgeon to the Gainsborough Dispensary; Gainsborough, Lincolnshire. *Council*, 1871-2.

1859 Macrae, John, 4, High street, Lewes, Sussex.

1861 McVeagh, Dennis, L.K.Q.C.P. Ireland, 33, Bishop street, Coventry, Warwickshire.

1866 Maddever, John Coombe, M.D., 12, Battery place, Rothesay.

1859 Madge, Henry M., M.D., 32, Fitzroy square, W. *Council*, 1863-65. *Vice-Pres.* 1872.

1871 Malins, Edward, M.D., Cradley Heath, Brierley Hill, Staffordshire.

1871 Manby, Alan Reeve, East Rudham, Norfolk.

1868 March, Henry Colley, M.D., 2, West street, Rochdale.

1860 Marley, Henry Frederick, Padstow, Cornwall.

1859 Marley, Richard, Bromyard, near Worcester, Herefordshire.

1868 Marriott, Charles William, Dynevor House, Leamington, Warwickshire.

1869 Marriott, Osborne Delane, M.B., C.M., Sevenoaks, Kent.

1862 Marriott, Robert Buchanan, Swaffham, Norfolk.

1859 Marshall, John Brake, Nightingale road downs, Clapton, N.E.

1871 Martin, Edward, Senior Surgeon to the Weston-super-Mare Hospital; Victoria House, Weston-super-Mare.

1864 Martin, Lawrence J., M.D., Physician to the Melbourne Lying-in Hospital; 126, Collins street east, Melbourne, Victoria.

1871 Mathias, David, Cardigan, South Wales.

1866 Mattei, Antoine, M.D., Professor of Midwifery, Rue Thérèse 4, Paris.

1861 Matthews, John, M.D., 4, Mylne street, Myddelton square, E.C.

Elected

1867 May, Henry, L.R.C.P. Lond., Fairfield House, Lichfield road, Aston, Birmingham.

1859 Meadows, Alfred, M.D., Physician-Accoucheur to, and Lecturer on Midwifery at, St. Mary's Hospital; Physician-Accoucheur to the General Lying-in Hospital, York road; Physician to the Hospital for Women, Soho square; 27, George street, Hanover square, W. *Council*, 1862-64. *Hon. Sec.* 1865-66. *Hon. Lib.* 1865. *Treas.* 1867-69.

1867 Mickley, Arthur George, M.B. Lond., House Surgeon, General Hospital, Nottingham.

1871 Miller, Hugh, M.D., Assistant-Physician to the Maternity Hospital, Glasgow; 463, St. Vincent Street, Glasgow.

1871 Miller, John Faure, 28, Rue de Matignon, Faubourg St. Honoré, Paris. *Hon. Loc. Sec.*

1869 Milward, James, 62, Crockherbtown, Cardiff.

1869 Minns, Pembroke R. J. B., M.D., Thetford, Norfolk.

1859 Mitchell, Joseph Thomas, F.R.C.S. [8, Percy place,] 176, Clapham road, S.W. *Council*, 1863-67.

1867 Mitchell, Robert Nathal, M.D., 1, Amersham park villas, New Cross, Kent.

1868 Moodelly, P. S. Mootoosawmy, M.D., Native Surgeon, Uncovenanted Service, Madras, Manargoody, Tanjore.

1871 Moodelly, Chittathore Banloo, Graduate in Medicine and Surgery of the Madras Medical College; Officiating Gillah Surgeon, of Cochin; Trichinopoly.

1869 Moore, Joseph, M.D., 9, Linden villas, Blue Anchor road, Bermondsey, S.E.

1859 Moorhead, John, M.D., Surgeon to the Weymouth Infirmary and Dispensary; Weymouth, Dorset.

1863 Morgan, Edward, 15, Park street, Llanelly, Caermarthenshire.

1869 Morgan, W. H., Surgeon 23rd Regiment, Tinilou, Travancore.

1871 Morrison, John R., L.R.C.P. Ed., 57, Cannon street road, E.

1865 Moseley, George, F.R.C.S., 51, Priory road, Kilburn, N.W.

Elected

1859 Murray, Gustavus Charles P., M.D., Obstetric-Physician to the Great Northern Hospital; 17, Green street, Grosvenor square, W. *Council*, 1864-65. *Hon. Sec.* 1866-69. *Vice-Pres.* 1870-72.

1859 Musgrave, Johnson Thomas, L.R.C.P. Ed., 39, Finchley road, N.W. *Council*, 1859-60.

1859 Napper, Albert, Broad Oak, Cranleigh, Guildford, Surrey. *Council*, 1866-68.

1863 Nason, John James, M.B. Lond., 11, Bridge street, Stratford-on-Avon.

1859 Nason, Richard Bird, Nuneaton, Warwickshire.

1859 Neal, James, M.D., Hon. Surgeon to the Lying-in Hospital, Birmingham; 1, Trafalgar terrace, Moseley Road, Birmingham.

1867 Neate, Charles, Uttoxeter, Staffordshire.

1866 Neild, James Edward, M.D., Lecturer on Forensic Medicine, Melbourne University; 166, Collins street east, Melbourne.

1859 Newman, William, M.D., Surgeon to the Stamford and Rutland Infirmary; Barn Hill House, Stamford, Northamptonshire.

1859 Newton, Edward, F.R.C.S., 4, Upper Wimpole street, W. *Council*, 1865-67.

1868 Nicholls, James, M.D., Duke street, Chelmsford, Essex.

1861 Nichols, George W., Augusta House, Rotherhithe, S.E.

1869 Norton, Selby, M.D., Rye House, Putney Hill, Surrey.

1868 Oates, Parkinson, M.D., 164, Cambridge street, Pimlico, S.W.

1859 Oldham, Henry, M.D., F.R.C.P., Consulting Physician-Accoucheur to, and Lecturer on Midwifery and Diseases of Women and Children at, Guy's Hospital; 4, Cavendish place, Cavendish square, W. *Vice-Pres.* 1859. *Council*, 1860, 1865-66, 1868-72. *Treas.* 1861-62. *Pres.* 1863-64.

1859 Oldham, James, F.R.C.S., Consulting Surgeon to the Brighton Lying-in Institution; 53, Norfolk square, Brighton. *Council*, 1866-68.

Elected

1869 Ord, George Rice, Streatham Hill, Surrey.

1863 Oswald, James Waddell Jeffries, L.R.C.P. Ed., 38, Lambeth walk, S.E.

1869 Oxley, Martin G. B., L.K.Q.C.P. Ireland, 49, Rodney street, Liverpool.

1859 Palfrey, James, M.D., Assistant Obstetric Physician to the London Hospital; Physician to the General Lying-in Hospital, York road; 18, Finsbury square, E.C.

1867 Parks, John, The Wylde, Bury, Lancashire.

1865* Paterson, James, M.D., Hayburn Bank, Partick, Glasgow.

1860 Payne, Charles Henry, M.D., Wimbledon, Surrey.

1866 Peacock, Albert Louis, Ford Cottage, Churchinford, near Honiton, Devonshire.

1864 Pearson, David Ritchie, M.D., 23, Upper Phillimore place, Kensington, W.

1871 Pedler, George Henry, 6, Trevor terrace, Rutland gate, S.W.

1859 Peirce, Richard King, Surgeon to the Notting hill and Shepherd's Bush Dispensary, 16, Norland place, Notting hill, W.

1871 Perrigo, James, M.D., Montreal, Canada.

1866 Phillips, John Jones, M.D., Assistant-Obstetric Physician to Guy's Hospital; Assistant-Physician to the Hospital for Sick Children; and Physician to the Royal Maternity Charity; 26, Finsbury square, E.C. *Hon. Lib.* 1870. *Hon. Sec.* 1871-2.

1871 Philps, Philip George, 4, Queen's road, Peckham, S.E.

1866 Pilcher, William John, 43, West street, Boston, Lincolnshire.

1859 Pinchard, Benjamin, M.D., Cottenham, Cambridgeshire.

1868 Playfair, George Ranken, M.D., Deputy Inspector-General, H.M.'s Indian Army [*per* C. S. Leckie, Esq., 2, East India avenue, Leadenhall street].

1864 Playfair, W. S., M.D., F.R.C.P., Assistant-Physician for the Diseases of Women and Children to King's College Hospital; Physician to the Evelina Hospital for Sick Children; 5, Curzon street, Mayfair, W. *Council*, 1867. *Hon. Librarian*, 1868-69. *Hon. Sec.* 1870-72.

Elected

1859* Pollard, William, Surgeon to the Torbay Hospital; Southlands, Torquay, Devon.

1860 Pollock, Timothy, M.D., 26, Hatton Garden, E.C. *Council*, 1866-68.

1860 Porter, Charles, 54, Digbeth, Birmingham

1864 Potter, John Baptiste, M.D., Assistant-Obstetric Physician to the Westminster Hospital; 56, Maddox street, Bond street, W. *Council*, 1872.

1859 Pound, George, Odiham, Hants.

1863 Powell, Josiah T., M.D., 347, City road, E.C.

1864 Price, William Nicholson, Lecturer on Midwifery at the Leeds School of Medicine; 7, East parade, Leeds.

1863 Price, William Preston, M.D., Surgeon to the Metropolitan Infirmary for Scrofulous Children, Margate; 1, Ethelbert Crescent, Margate.

1859 Priestley, William O., M.D., F.R.C.P., Professor of Midwifery in King's College, London; Physician-Accoucheur to King's College Hospital; and Consulting Physician-Accoucheur to the St. Marylebone Infirmary; 17, Hertford street, Mayfair, W. *Council*, 1859-61, 1865-66. *Vice-Pres.* 1867-69.

1859 Radford, Thomas, M.D., Consulting Physician to St. Mary's Hospital, Manchester; Moor field, Higher Broughton, Manchester. *Vice-Pres.* 1859.

1859 Ramsay, John Allen, L.R.C.P. Ed., Great Shelford, Cambridge.

1859 Randall, John, M.D., Lecturer on Medical Jurisprudence, St. Mary's Hospital Medical School; Medical Officer, St. Marylebone Infirmary; 35, Nottingham place, W.

1860 Ransom, Robert, M.D., F.R.C.S., 5, Jesus lane, Cambridge.

1861 Rasch, Adolphus A. F., M.D., Physician to the Eastern Dispensary of the German Hospital; 7, South street, Finsbury square, E.C. *Council*, 1871-2.

1870 Ray, Edward Reynolds, Dulwich.

1860* Rayner, John, M.D., Swaledale House, Quadrant road north, Highbury New Park, N.

Elected

1859 Raynes, Henry, Gringley-on the-hill, Bawtry, Yorkshire.

1871 Read, Charles, 3, Rothwell street, Regent's park road, N.W.

1859 Ree, Henry Pawle, L.R.C.P. Ed., F.R.C.S., St. John's, Fulham, S.W.

1859 Remington, Thomas, M.D., Visiting Medical Officer to the S. Lambeth and Brixton Dispensary; Grove House, 194, Brixton road, S.W.

1862 Richards, David, 8, St. George's place, Brighton, Sussex.

1859 Richards, Samuel, M.D., 36, Bedford square, W.C. *Council*, 1864-66.

1862 Richards, S. Smith C., 36, Bedford square, W.C.

1859 Richardson, Richard, L.R.C.P. Ed., Rhayader, Radnorshire.

1871 Rickard, Frederick Martyn, Assistant-Surgeon 25th Madras Native Infantry, Cavanore.

1871 Rigden, Walter, The Hospital for Women, 30, Soho square, W.

1871 Roberts, Arthur, 30, Kensington square, Kensington, W.

1859* Roberts, David Lloyd, M.D., Surgeon to St. Mary's Hospital, Manchester; 23, St. John's street, Deansgate, Manchester. *Council*, 1868-70. *Vice-Pres.* 1871-2. *Hon. Loc. Sec.*

1867 Roberts, David W., M.D., 56, Manchester street, Manchester square, W.

1860 Roberts, Robert Price, Shamrock House, Rhyl, Flintshire.

1859 Robinson, Thomas, M.D., 35, Lamb's Conduit street, W.C.

1868 Robson, Hope F. A., M.D., Iver, near Uxbridge.

1868 Rogers, Adam MacDougall, Surgeon, Bombay Army, Malabar Hill, Bombay.

1859 Rogers, William Richard, M.D., Physician to the Samaritan Free Hospital; 56, Berners street, Oxford street, W. *Council*, 1870-72.

1871 Roose, E. C. Robson, 32, London road, Brighton.

1859 Roots, William Sudlow, F.R.C.S., F.L.S., Surgeon to the Royal Establishment at Hampton Court, Kingston-on-Thames.

Elected

1860 Roper, Alfred George, 57, North End, Croydon, Surrey.

1865 Roper, George, Bank House, Aylsham, Norfolk.

1859 Rose, Henry Cooper, M.D., High street, Hampstead, N.W.

1859 Routh, Charles Henry Felix, M.D., Physician to the Samaritan Free Hospital for Women and Children; 52, Montagu square, W. *Council*, 1859-61.

1869 Russell, Charles James, Rose Cottage, Messingham, Lincolnshire.

1870 Russell, Logan D. H., M.D. New York; Camden, Wyoming, U.S.

1866 Saboia, V., M.D., Rio de Janeiro [*per* Captain Argollo, 1, Princes terrace, Bayswater].

1864 Salter, John H., D'Arcy House, Tolleshunt D'Arcy, Kelvedon, Essex.

1868* Sams, John Sutton, St. Peter's Lodge, Eltham road, Lee, Kent.

1870 Saul, William, M.D., 4, Charlotte street, Fitzroy square, W.

1863 Savage, Henry, M.D., Consulting Physician to the Samaritan Hospital for Women; 45, Baker street, and Ridge mount, Laurie park south, Norwood, S.E. *Council*, 1871-2.

1859 Scott, John, F.R.C.S., Surgeon to the Hospital for Women, Soho square; 49, Harley street, Cavendish square, W. *Council*, 1868-70. *Vice-Pres.* 1871-2.

1870 Scott, John, M.D., New street, Sandwich.

1870 Scott, John, M.D., 67, Folsam street, San Francisco.

1860 Sedgwick, Leonard William, M.D., 2, Gloucester terrace, Hyde park, W. *Council*, 1871-2.

1863 Sequeira, Henry Little, 1, Jewry street, Aldgate, E.C.

1866 Sequeira, James Scott, 34, Leman street, Goodman's fields, E.

1860 Sewell, Charles Brodie, M.D., 76, Guilford street, Russell square, W.C., and 13, Fenchurch street, E.C.

1870 Seydewitz, Baron Paul von, M.D., 21, Shadwell road, Upper Holloway road, N.

Elected

1862 Sharman, Malim, Surgeon to the Birmingham Free Hospital for Sick Children ; 18, New Hall street, Birmingham.

1859 Sharpin, Henry Wilson, F.R.C.S., Surgeon to the Bedford General Infirmary, Bedford. *Council*, 1871-2.

1860 Shaw, George, Portland House, Battersea, S.W.

1869 Shaw, Henry Sissmore, 112, Upgate, Louth, Lincolnshire.

1859 Shearman, Edward James, M.D., F.R.C.S., F.R.S. Ed., Consulting Physician to the Rotherham Dispensary; Moorgate, Rotherham, Yorkshire.

1859 Sheehy, William Henry, L.R.C.P. Ed., 4, Claremont square, Pentonville, N.

1867 Shepherd, Frederick, L.R.C.P. Ed., 33, King Henry's road, South Hampstead, N.W.

1866 Sheraton, George Robert, L.R.C.P. Ed., Sedgefield, Ferryhill, Durham.

1862 Shillingford, Isaac Shortland, 124, Hill street, Peckham, S.E.

1859 Shipton, William Parker, Consulting Surgeon to the Devonshire Hospital; Buxton, Derbyshire.

1861 Shortt, John, M.D., Surgeon H.M. Madras Army, and Superintendent-General of Vaccination, Madras Presidency. *Hon. Loc. Sec.* [Agents: Messrs. Baring, Brothers, 8, Bishopsgate within, E.C.]

1860 Skinner, Thomas, M.D., Obstetric Physician to the Lying-in Hospital; Dunedin House, 64, Upper Parliament street, Liverpool. *Council*, 1865-66. *Hon. Loc. Sec.*

1859 Sleeman, Philip Rowling, F.R.C.S., Montrose House, Queen's road, Clifton.

1861 Sloman, Samuel George, Farnham, Surrey.

1861 Slyman, William Daniel, 26, Caversham road, Kentish Town, N.W.

1860 Smart, Thomas Tovey, L.R.C.P. Ed., South Villa, Bedminster, Bristol.

1859 Smiles, William, M.D., Surgeon to the House of Correction, Cold Bath Fields; 44, Bedford square, W.C.

Elected

1870 Smith, Francis William, M.B., Westbury, Wilts.

1867 Smith, Heywood, M.D., Assistant-Physician to the Hospital for Women, Soho square; 2, Portugal street, Grosvenor square, W. *Council*, 1872.

1859 Smith, Protheroe, M.D., Physician to the Hospital for Women, Soho square; 42, Park street, Grosvenor square, W.

1859 Smith, William Johnson, M.D., Consulting Physician to the Weymouth Infirmary and Dispensary; Greenhill, Weymouth, Dorset. *Council*, 1869-71.

1859 Smith, W. Tyler, M.D., F.R.C.P., Consulting Physician-Accoucheur to St. Mary's Hospital; 21, Upper Grosvenor street, W. *Treasurer & Vice-Pres.* 1859-60. *Pres.* 1861-62. *Council*, 1863-72.

1860 Snell, Edmund, L.R.C.P. Ed., 59, Stepney green, E.

1866 Soper, William, Medical Officer, Jews' Hospital, Norwood; 4, Clapham rise [283, Clapham road], S.W.

1869 Spaull, Barnard, F.R.C.S., 5, Vale place, Hammersmith, W.

1868 Spaull, Barnard E., 2, Vale place, Hammersmith, W.

1859 Spencer, George, 8, Kensington park road, W.

1860 Spencer, Lawrence, M.D., 9, Winckley square, Preston, Lancashire.

1862 Spry, George Frederick, M.D., Assistant-Surgeon, 2nd Life Guards, The Barracks, Windsor.

1867 Squarey, Charles E., M.B., Assistant-Physician to the Hospital for Women; 13, Upper Wimpole street, W.

1859 Squire, William, 6, Orchard street, Portman square, W. *Council*, 1866-68.

1860 Stedman, Robert Savignac, Sharnbrook Grange, Bedford.

1866 Steele, Arthur Browne, L.K.Q.C.P. Ireland, Lecturer on Midwifery, Royal Infirmary School of Medicine; 54, Rodney street, Liverpool.

1869 Steele, Henry Murray, Victoria Hospital for Children, Gough House, Queen's road, Chelsea, S.W.

Elected

1859 Stone, Joseph, M.D., 84, Bloomsbury, Oxford street, Manchester.

1859 Stowers, Nowell, 125, Kennington park road, Kennington-S.E.

1866 Strange, William Heath, M.D., 13, The Avenue, Belsize park, Hampstead, N.W.

1871 Sturges, Montague J., M.D., Elmstone House, Beckenham, Kent.

1859 Stutter, Frederick Augustus, M.D., Farnboro' House, Upper Sydenham, Kent, S.E.

1870 Summerhayes, William, Upper St. Giles's, Norwich.

1862 Sutherland, William, M.D., 22, George street, Croydon, Surrey.

1862 Sutton, Field Flowers, M.D., Balham hill, Clapham, S.W.

1859 Swayne, Joseph Griffiths, M.D., Physician-Accoucheur to the Bristol General Hospital; Harewood House, 74, Pembroke road, Clifton, Bristol. *Council*, 1860-61. *Vice-Pres.* 1862-64. *Hon. Loc. Sec.*

1860 Sweeting, George Bacon, M.R.C.P., King's Lynn, Norfolk.

1859 Symonds, Frederick, F.R.C.S., Surgeon to the Radcliffe Infirmary; 35, Beaumont street, Oxford. *Council*, 1862-65. *Hon. Loc. Sec.*

1871 Tait, Lawson, F.R.C.S., L.R.C.P. Ed., 7, Waterloo street, Birmingham.

1866 Tannahill, Robert Dunlop, M.D., Physician to the Lying-in Hospital; 106, Bath street, Glasgow.

1871 Tanner, John, M.D., L.R.C.P. Ed., 118, Newington Causeway.

1859 Tapson, Alfred Joseph, M.B. Lond., 35, Gloucester gardens, Westbourne terrace, W. *Council*, 1862-64.

1863 Tapson, Joseph Alfred, Surgeon to the Clapham General Dispensary; 83, High street, Clapham, S.W.

1862 Tasker, Richard Thomas, Melbourne, near Derby.

Elected

1871 Tayler, Francis F., B.A. Lond., and M.B., Claremont villa, Lewisham road, S.E.

1859 Tayloe, Edward, South lodge, Clapham common, S.W.

1870 Taylor, Arthur, M.B., 180, Kennington park road, S.E.

1859 Taylor, Charles, M.D., Pine house, Camberwell green, S.E. *Council*, 1869-71.

1859 Taylor, David, 180, Kennington park road, S.E.

1869 Taylor, John, Earl's Colne, Halstead, Essex.

1871 Taylor, John W., 28, Queen street, Scarborough.

1862 Taylor, Thomas, F.R.C.S., 19, Bennett's hill, Birmingham.

1862 Thane, George Dancer, M.D., 15, Montague street, Russell square, W.C.

1870 Thompson, John Ashburton, 207, Caledonian road, N.

1867 Thompson, Joseph, Junr., 1, Oxford street, Nottingham.

1869 Thompson, D. R., M.D., M.R.C.S., Officiating Civil Surgeon, 26th Native Infantry, Trichinopoly. [Messrs. de Beaux & Co., Esplanade Dispensary, Black Town, Madras.]

1867 Thorburn, John, M.D., Lecturer on Midwifery, Manchester Royal School of Medicine; 333, Brighton place, Oxford street, Manchester.

1867 Thorman, Thomas, 17, Oxford terrace, Hyde park, W.

1860 Thorne, George Leworthy, M.D., Swanage, Dorset.

1871 Thorne, William Bezly, 76, Palace garden terrace, Kensington, W.

1862 Thornton, William Henry, M.D., Springfield terrace, Dewsbury, Yorkshire.

1867 Thornton, William Henry, Surgeon to the Royal National Sea Bathing Infirmary; Berkeley Lodge, Margate.

1860 Tiffen, Robert, M.D., Wigton, Cumberland.

1866 Tilley, Samuel, 70, Union road, Rotherhithe, S.E.

1859 Tilt, Edward John, M.D., Consulting Physician-Accoucheur to the Farringdon General Dispensary; 60, Grosvenor street, W. *Council*, 1867-68. *Vice-Pres.* 1869-70. *Treas.* 1871-2.

Elected

1859 TIMES, HENRY G., 23, Manchester street, Manchester square, W.

1869 TOMKINS, CHARLES P., L.K.Q.C.P. Ireland, Beddington park, Croydon.

1870 TOWNE, ALEXANDER, Junr., 354, Kingsland road, N.E.

1865 TREND, HENRY GRISTOCK, L.R.C.P. Ed., 191, Southgate road, Islington, N.

1852 TULLOCH, JAMES STEWART, M.D., Surgeon to the Westbourne Dispensary; 1, Pembridge place, Bayswater, W.

1865 TURNER, JOHN SIDNEY, Surgeon to the Anerley Dispensary, Woodside, Anerley road, Upper Norwood, Surrey.

1861 TURNER, RICHARD, Surgeon to the Lewes Dispensary; High street, Lewes, Sussex.

1871 TURTON, FREDERIC, Ablow House, Wolverhampton.

1861 TWEED, JOHN JAMES, Junr., F.R.C.S., 14, Upper Brook street, W.

1860 VARENNE, EZEKIEL G., Kelvedon, Essex.

1860 VINCENT, PATRICK.

1864 WAHLTUCH, ADOLPHE, M.D., 280, Oxford street, Manchester.

1860 WALES, THOMAS GARNEYS, Jun., Downham Market, Norfolk.

1869 WALKER, ALFRED, M.B., Physician to the East London Hospital for Sick Children; [abroad] 17, Throgmorton street, E.C.

1866 WALKER, THOMAS JAMES, M.D., Surgeon to the General Infirmary, Peterborough; 18, Westgate, Peterborough.

1870 WALLACE, FREDERICK, 243, Hackney road, N.E.

1860 WALLER, JOHN TURPIN, Flegg Burgh, Norfolk.

1867 WALTERS, JAMES HOPKINS, Faringdon, Berks.

1859 WANE, DANIEL, M.D., 20, Grafton street, Bond street, W.

1860 WARD, JOHN, Penistone, Sheffield, Yorkshire.

1859 WARDEN, CHARLES, M.D., Hon. Surgeon to the Birmingham Lying-in Hospital; 39, Temple street, Birmingham.

1862 WATKINS, CHARLES STEWART, 16, King William street, Strand, W.C.

1861 WATTS, GEORGE HENRY, Thatcham, near Newbury, Berks.

1867 WEBB, FRED. E., 113, Maida vale, W.

1859 WEBB, HENRY SPEAKMAN, Welwyn, Herts.

Elected

1860 Welchman, Charles Edward Elliot, Bore street, Lichfield, Staffordshire.

1867 Weller, George, Forest lodge, Wanstead, Essex.

1859 Wells, T. Spencer, F.R.C.S., Surgeon in Ordinary to H.M.'s Household; Surgeon to the Samaritan Free Hospital for Women and Children; 3, Upper Grosvenor street, W. *Council*, 1859. *Vice-Pres.* 1868-70.

1859 Westmacott, John Guise, M.D., Medical Officer to the Paddington Provident Dispensary; 19, St. Mary's terrace, Paddington, W.

1870 Wheatcroft, Samuel Hansom, L.R.C.P. Ed., 16, Broomhall street, Sheffield, and 8, Kensington park road, Notting hill, W.

1860 Wheeler, Daniel, Chelmsford, Essex.

1860 White, Frederick George, L.R.C.P. Ed., Castle House, Chepstow, Monmouthshire.

1859 Whitehead, James, M.D., Physician to the Manchester Clinical Hospital; 87, Mosley street, Manchester. *Council*, 1859-61. *Vice-Pres.* 1868-69.

1870 Whitehead, John, M.D., 7, Poole's terrace, Seven Sisters road, Holloway, N.

1865 Whitehead, Walter, F.R.C.S. Ed., Surgeon to St. Mary's Hospital for the Diseases of Women and Children; Clareville, 248, Oxford road, Manchester.

1864 Whitmarsh, William Michael, M.D., Surgeon to the Hounslow Lying-in Charity; Albemarle House, Hounslow, Middlesex.

1867 Wilbe, Richard Haydock, M.D., York lodge, 21, Finchley road, St. John's Wood, N.W.

1871 Wilkinson, William Henry Whiteway, L.R.C.P. Ed., 102, Hemingford road, Barnsbury, N.

1861 Williams, Arthur Wynn, M.D., Physician to the Samaritan Free Hospital; Physician-Accoucheur to the Western General Dispensary; 1, Montagu square, W. *Council*, 1871.

1861 Williams, David John, M.D., Queenscliff, Geelong, Victoria, Australia. *Hon. Loc. Sec.* [*Per* J. W. Voss, Esq., Yspitty works, Loughor, Llanelly.]

Elected

1864 Williams, Edward, M.D., Holt-street House, Wrexham.

1867 Williams, Henry Llewellyn, M.D., 9, Leonard place, Kensington, W.

1860 Williams, Robert Hankinson, L.R.C.P. Ed., Great Eccleston, near Garstang, Lancashire.

1860 Wills, John, M.D., St. Helier's, Jersey.

1859 Wilson, James George, M.D., Professor of Midwifery in the Andersonian University, Glasgow; Physician-Accoucheur to the Glasgow Lying-in Hospital and Dispensary; 9, Woodside crescent, Glasgow. *Council*, 1863-64. *Vice-Pres.* 1865-67.

1860 Wilson, Robert James, F.R.C.P. Ed., 7, Warrior square, St. Leonard's-on-Sea, Sussex. *Hon. Loc. Sec.*

1865 Wilson, Thomas, L.R.C.P. Ed. (exam.), Alton, Hants.

1868 Wilton, John, L.R.C.P. Ed., Chalk Pit House, Sutton, Surrey.

1866 Wiltshire, Alfred, M.D., 57, Wimpole street, Cavendish square, W. *Council*, 1870. *Hon. Lib.*, 1871–2.

1866 Winterbottom, Henry, Consulting Surgeon to St. Mary's Hospital, Manchester; 56, Bury New road, Strangeways, Manchester.

1860 Wiseman, William Wood, Springstone House, Ossett, near Wakefield, Yorkshire.

1860 Wood, William James, Brightwaltham, Wantage, Berks.

1864 Woodman, William Bathurst, M.D., Assistant-Physician to the London Hospital; 6, Christopher street, Finsbury square, E.C.

1859 Worship, J. Lucas, Manor House, Riverhead, Sevenoaks, Kent.

1871 Yarrow, George Eugene, M.D., 87, Old street, E.C.

1866 Yeaman, George, M.D., 91, Sauchiehall street, Glasgow.

1870 Yeates, George, M.D., Walthamstow, Essex.

1861 Young, William Butler, 5, Castle street, Reading, Berks.

1869 Yule, John S. C., 52, Bolton street, Bury, Lancashire.

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ADVERTISEMENT.

The Society is not as a body responsible for the facts and opinions which are advanced in the following papers and communications read, or for those contained in the abstracts of the discussions which have occurred, at the meetings during the Session.

OBSTETRICAL SOCIETY

OF

LONDON.

SESSION 1871.

ANNUAL GENERAL MEETING,

JANUARY 4th, 1871.

Dr. Graily Hewitt, President, in the Chair.

Present—43 Fellows and 6 visitors.

The following gentlemen were elected Fellows of the Society:—Fletcher Beach, M.R.C.S.; George Eastes, M.B., F.R.C.S.; G. D. M'Callum, M.D. (Montreal); Edward Malins, M.D. (Cradley Heath); David Mathias, M.R.C.S. (Cardigan); G. H. Pedler, M.R.C.S.; James Perrigo, M.D. (Montreal); Arthur Roberts, M.R.C.S. (Kensington); John Tanner, M.D.

Dr. Cleveland exhibited a fœtus and placenta of about five months, in which the funis was tied in a remarkable knot round the neck of the child.

Mrs. D—, the mother of three children, became pregnant in the middle of May, 1870, and was troubled with the usual sickness till the third week in September, when she received

a sudden and severe mental shock, and from that period the sickness ceased. She felt well until the beginning of November, when there was a slight vaginal discharge, attended with bearing down.

Some days after she took a dose of castor oil, when more decided uterine contraction ensued, and on the following morning I removed with my hand the fœtus and placenta.

The fœtus, a female, which had evidently been dead some time, presented a remarkably squeezed and shrivelled appearance. The head was misshapen, the cranium being elongated and collapsed; the parietal bones were apparently driven in from behind to before as if by great pressure; there was no brain substance, but its place was occupied by a little sero-sanguineous fluid.

The cord was seventeen inches long, and at about three inches from the umbilicus it was tied in a single knot round the neck of the fœtus, and afterwards twisted on itself so as somewhat to resemble a noose.

About an inch from the knot on the placental side the cord was exceedingly thin for nearly a quarter of an inch. There was no appreciable indentation of the soft parts of the neck produced by the knot.

Dr. Playfair exhibited a pessary which combined in an ingenious way the advantages of Zwanck's and the ordinary stem pessary. It was interesting, as being the invention of a patient who had tried to obviate for herself some of the defects of Zwanck's pessary. The leaves instead of being opened by a screw (always apt to get out of order) sprang open when a spring was touched, and the greater the pressure of the uterus the more open they kept. At the same time the mechanism was simple and inexpensive.

Annual Meeting.

The report of the scrutineers of the ballot for the election of officers (Dr. Cleveland and Mr. Culpepper) was read, from which it appeared that the following list of office-

Dr Westmacott delt

W West & Co lith

bearers recommended by the Council had been unanimously adopted.

Honorary President.—Sir Charles Locock, Bart., M.D.

President.—John Braxton Hicks, M.D., F.R.S.

Vice-Presidents.—Henry Gervis, M.D., Constantine Holman, M.D. (Reigate), J. Charles Langmore, M.B., F.R.C.S., Gustavus C. P. Murray, M.D., David Lloyd Roberts, M.D. (Manchester), John Scott, F.R.C.S.

Treasurer.—Edward John Tilt, M.D.

Honorary Secretaries.—W. S. Playfair, M.D., J. J. Phillips, M.D.

Honorary Librarian.—Alfred Wiltshire, M.D.

Honorary Members of Council.—William Tyler Smith, M.D., Henry Oldham, M.D., Robert Barnes, M.D., John Hall Davis, M.D., Graily Hewitt, M.D.

Other Members of Council.—John Brunton, M.D., Edward Copeman, M.D. (Norwich), J. Brendon Curgenven, M.R.C.S., George Gaskoin, M.R.C.S., Samuel Day Goss, M.D., T. Taylor Griffith, F.R.C.S. (Wrexham), Edward Head, M.B., Jonathan Hutchinson, F.R.C.S., W. E. Image, F.R.C.S., (Bury St. Edmunds), Draper Mackinder, M.D. (Gainsborough), Adolphus A. F. Rasch, M.D., William Richard Rogers, M.D., Henry Savage, M.D., Leonard William Sedgwick, M.D., Hy. Wilson Sharpin, F.R.C.S. (Bedford), Wm. Johnson Smith, M.D. (Weymouth), Charles Taylor, M.D., Arthur Wynn Williams, M.D.

The Report of the Auditors of the balance sheet for 1870 (Dr. Bathurst Woodman and Mr. Taylor) was then read, which stated that the income of the Society for the past year had been £757 7*s.* 11*d.* The sum of £227 14*s.* had been expended on the 'Transactions,' £215 10*s.* 11*d.* on the Library and Museum, and £128 3*s.* 1½*d.* in general expenses. £50 had been invested in consols, leaving the sum of £135 19*s.* 10½*d.* in the hands of the treasurer. It further appeared that the Society possessed the sum of £1156 5*s.* 4*d.* invested in 3 per cent. annuities.

The following report of the Honorary Librarian was then read:

Mr. President and Gentlemen,—The report which it is my duty to lay before you in reference to the state of the Library during the past year is encouraging as to its increasing usefulness to the Fellows of the Society. A much larger number of books has been issued, and many more visits have been paid to the Library, than in the preceding year. The various medical periodicals have been provided for the Society's reading room, while the Library committee has recommended for purchase the most important British and foreign works on obstetrics published during the year—a recommendation which has been liberally carried out by the Council. The Library has been increased since our last annual meeting by the addition of eighty-five works, making the total number of volumes now belonging to the Society 1310. Of these eighty-five volumes fifty-eight have been purchased and twenty-seven received as donations.

It is deserving of special notice that one of our Honorary Fellows, Professor Lazarewitch, of Kharkoff, has written to say that he has ordered several obstetrical instruments, designed by himself, to be sent to our Museum, and some of his published works to our Library; and also that Dr. J. W. Baker, of Woolwich, has intimated his intention of presenting about forty books, chiefly on obstetric subjects, all of which will soon be added to the Society's collection. An inspection of the Library was made in the summer, when the books were found to be numerically correct and in a good state of preservation.

The lease of the premises will expire in the course of the ensuing year, but there is reason to believe that it will be renewed at a very moderately increased rental.

(Signed) J. J. Phillips, M.D.

On the motion of Dr. Heywood Smith, seconded by Mr. Dunn, the reports of the auditors and Hon. Librarian were unanimously adopted.

A vote of thanks to the officers of the Society, mentioning especially the retiring officers, Drs. Graily Hewitt, Braxton Hicks, Gervis, and Phillips, was proposed by Dr. Brunton, seconded by Dr. Edis, and carried by acclamation.

Dr. Graily Hewitt, Dr. Braxton Hicks, Dr. Gervis, and Dr. Phillips returned thanks.

The President then delivered the Annual Address.

Gentlemen,—It is now my duty to formally close the proceedings of this evening by an address, and to take my leave of you as your President.

The present condition of our Society is highly satisfactory, from whatever point of view you please to regard it. It has continued to do its work, it has still found work to do, and there is the continual prospect of work before it requiring to be done.

During the past year 39 new Fellows have joined the Society. About an equal number have ceased to be Fellows of the Society. Death has occasioned several of these vacancies. The total number of the Fellows consequently remains as nearly as possible the same as reported at our last Annual Meeting, viz. 600. We have now also the satisfaction of numbering Dr. Charles West and Dr. Arthur Farre among our Honorary Fellows.

The state of the funds of the Society is all that could be desired, as you have just heard from the Report of the Auditors. While a considerable amount has been expended on the library, now becoming more and more valuable, we have been able to lay aside, in accordance with previous custom, something as an addition to our capital account. The Society now possesses in the Funds an amount representing £1156.

The attendance at our meetings during the past year has been good. The sale of our 'Transactions' to the profession outside the Society has realised for us during the year the

sum of upwards of fifty pounds,—a most satisfactory evidence of the value of the Society's work.

Our losses by death during the past year include the following:

John Renton, of Gateshead, Durham, died on February 18th, 1870, at the age of 58.

Charles A. Robinson died June 12th, 1870, at the early age of 25. Mr. Robinson was a native of Jamaica; he had filled the post of House Surgeon to the Hospital for Women, and at the time of his decease was House Surgeon to St. Peter's Hospital.

William Dingle Chowne, M.D., F.R.C.P., was originally in practice in Lincolnshire. He was associated with Dr. Golding in establishing Charing Cross Hospital; he lectured on Medicine and Obstetrics there for many years. He was one of the first members of Westminster Medical Society. He died September 17th, 1870, at Withorn, Lancashire, aged 79.

Dr. Chowne was a thoroughly scientific man; some of his papers will be found in the 'Philosophical Transactions.' He was a sound practitioner, and, when in his prime, occupied a very prominent place in professional estimation.

Dr. James Lumley Earle died November 23rd, 1870, aged 30. He was Resident Physician Accoucheur's Assistant at King's College Hospital, and Resident Surgeon Accoucheur to the Birmingham General Dispensary; he held the office of Surgeon-Accoucheur to the Queen's Hospital, Birmingham. Suddenly seized with hæmoptysis, his death followed three weeks after. He was the author of a well-known work on 'Flooding after Delivery, and its Scientific Treatment.' A zealous and conscientious worker has thus early been lost to the profession.

Joseph Cholmondeley, F.R.C.S., died in the month of December at the age of 76. Mr. Cholmondeley was for many years attached to Queen Charlotte's Lying-in Hospital. He was a valued and highly respected officer of that institution.

Dr. R. Uvedale West.—This gentleman died on November 17, at the age of sixty years. He was a man who deserves more than a passing notice. Under different circumstances, and with greater opportunities, he was one who would have taken a very high and prominent place in the medical world. As it was, a country practitioner, his time and energies expended in attending patients scattered over a large superficial area, he has achieved for himself a high reputation as a writer, thinker, and acute observer in the department of medicine which absorbed for the most part his mental efforts —viz., the obstetric.

An ancestor of his on the maternal side, Dr. Robert Uvedale, competed successfully with Sir Isaac Newton in 1673 for a Fellowship at Trinity College, Cambridge. His father practised as a surgeon at Alford. In London, where the deceased was educated, his resources were so limited that he was led to increase them by reporting for one of the medical journals Samuel Cooper's lectures on surgery. Dr. West next went to Paris. The result of his visit was to give him such a practical acquaintance with the French literature and habit of thought that his work was permanently tinged, so to speak, by it in after years. His conversation particularly gave evidence of this. From Paris to the routine of private practice at Hogsthorpe, near Alford, was his next step. Here he began the useful, though comparatively obscure, professional life which has just ended. A few years later, on the death of his father, he removed to Alford, where, for the last two years almost incapacitated by ill health, he ended his days.

It is not too much to say that Dr. Uvedale West was probably one of the most expert practitioners of the obstetric art who has ever lived. In the course of thirty-one years' practice he had attended 3691 cases of labour, preserving accurate notes of the result in each case. His success was very great, not only in expediting labour, but in preserving life. In 1853 he published a "Statistical Account of Obstetric Cases" in the 'Association Medical Journal;' in 1862 "Illustrations of Puerperal Diseases," 8vo (Churchill)—a work embodying

much valuable and interesting matter and observations relating to the spread and origin of puerperal fever. In 1856 he wrote in the 'Glasgow Medical Journal' an article which must always be studied and quoted, "On Cranial Presentations and Cranial Positions." This has since been separately printed. It is a masterly analysis and digest of the facts observed by himself in the course of a long practice, and it is one of the most remarkable pieces of obstetric observation ever published. In the lonely cottage, the farm-house, the country town, Dr. Uvedale West accumulated facts, and made observations of the highest obstetric interest, following in the steps of the great Naegele, inquiring and searching for himself into the hidden facts of nature.

Dr. Uvedale West was a humorous and genial companion, and in an appreciative circle would have shown brightly and happily. His great delight was to escape for a few hours from his arduous practice, and mingle with his brethren in town.

On the establishment of the Obstetrical Society in London in 1858, Dr. Uvedale West immediately became an active contributor, and rendered valuable assistance in the work to which the Society devoted itself. He became a Vice-President of the Society subsequently. The few who knew him will pay an admiring tribute to a true man.

I come next to a name with which it is extremely difficult to deal in a biographical way,—the name of *Sir James Young Simpson,* Bart., an Honorary Fellow of this Society, who died in the month of May last. I cannot profess to deal adequately with his biography in the brief space of time which is at my disposal this evening, but I must say a few words about this great man. Sir James Young Simpson was, as you are well aware, Professor of Midwifery in the University of Edinburgh for as much as thirty years, having been appointed at the early age of twenty-nine. I suppose no man in the medical profession ever did so much in so short a time as Sir James Young Simpson, or ever spread his energies, so to speak, over so great a space of ground as our deceased

honorary Fellow. He possessed an intellect of extraordinary power: wide, deep, limitless, inexhaustible. He possessed a frame of extraordinary strength, capable of sustaining him through enormous physical labours, enabling him almost to dispense with rest. This was certainly a most remarkable feature in Sir James Simpson, the vastness of his physical energies. His disposition was remarkable, he was humane, kindly almost beyond conception, possessing a largeness of heart equalled only by the greatness of his intellect, a manner which was winning and captivating to an extreme degree. No one was ever thrown into the company of Sir James Simpson for five minutes without being impressed with the magnitude and energy of the man, and his extreme kindness and *bonhommie*.

With reference to his works it may be said that there is no subject in the department of obstetric medicine in which his influence has not been felt. Merely to read the list of his works would occupy a considerable time; I can only allude to some of the principal subjects which he elucidated, and to some of his great discoveries and improvements. First and foremost, I think, we must place the application of anæsthesia to childbirth. Although the discovery of anæsthetics was not Sir James Simpson's, yet the discovery of chloroform as an anæsthetic, and as the most valuable anæsthetic known, and its application to childbirth, undoubtedly belong to Sir James Simpson. Then the discovery, if it may be termed a discovery, of acupressure; an application of great value, although its precise amount may not yet have been decided. His agitation of the question of the mortality of the surgical operations in hospitals, as was said only the other day, will probably constitute one of the great objects of laudation to the late Sir James Simpson. It is to be remarked, in the next place, that his great intellect was not entirely expended, or capable of being expended, upon a subject even so wide as medical science. Sir James was a great archæologist, and he has contributed very valuable papers on that subject. In fact, the great characteristic of Sir James Simpson, I think, must be considered to be his many-

sidedness. His power of devoting himself to so many different subjects at what appeared to outside observers to be the same moment was almost unique. Much was continually passing through his mind, continually deriving advantage from being triturated and dealt with in that great engine which he possessed. We cannot say that Sir James Simpson's death is a premature loss to the profession. It would not be right to look upon it in that light. He has done more in his fifty-nine years than falls to the lot of one man in ten thousand or in a hundred thousand to do. His work was done.

I must next mention a subject which has occupied much of the time and attention of the Council of the Society during the past two years—the project for the amalgamation of the various medical societies in London so as to form one Royal Society of Medicine. I am merely giving expression to a common feeling in those interested in the welfare of our department of the profession, and who in and out of this Society have those interests at heart, when I say that we deem it a matter of hearty congratulation that the project has been finally abandoned, and that we remain as we were, unfettered, independent, and free to develop our resources as well as to use them.

It has been felt by every member of the Council of this Society that we stand in a peculiar position in reference to the other branches of the profession. Our true position has hardly been known to ourselves, and in certain quarters we have been hardly considered to have a position at all. After a vigorous ten years' effort, however, this Society had made itself respected,—had become, for a society, rich and, above all, prosperous.

At such a time, under such circumstances, we were invited to become a *section* of the new, about to be formed Royal Society of Medicine. We were asked to sink our independence, to give up our hardly-earned savings, to subject ourselves to the control of a central council in which the obstetrical interest would have been represented by three out of twenty-eight. Moreover, we were to have been placed apart

from medicine and surgery, these two branches constituting a compact section to themselves.

Considerable difficulty was always experienced in eliciting from those most anxious for amalgamation what particular good the profession was to derive from it. One of the chief and tangible arguments for it was the pecuniary saving which would result. When, however, minute calculations came to be made it appeared obvious that this argument was wanting, and that in point of fact no considerable saving of expenditure could at all be relied on.

Regardless, then, of certain harmless execrations from without; looking steadily to what was good for this Society; keeping in view the principle that what was good and best for the interests and advancement of the obstetrical department of the profession must be for the general good of the profession; regarding as men of business the extreme inexpediency of attempting to grasp the shadow with the certainty of losing the reality; considering the great desirability of the work of this Society continuing uninterrupted and uninterfered with, the Council, working, I am happy to be able to say, in perfect accordance with the general body of the Fellows, have endeavoured to carry out literally and actually the expressed wishes of the Society.

Thanks to our unity and mutual co-operation we have been able through what was really a hardly-contested battle to hold our own. We can quite afford to allow what has transpired to pass without further remark. Finally, as you are aware, the scheme proved to be distasteful to other societies as well as our own, and had to be abandoned. The past two years of the existence of the society has been a most anxious time to all having its interests at heart. We have now, however, happily emerged from it. Personally, I cannot but feel gratified to be able to transmit the possessions and power of this noble Society unimpaired to my worthy successor.

The present appears to me an appropriate occasion for reviewing the advances in obstetric medicine during the last twelve years. I think it can be shown that this Society has,

so far, most completely fulfilled its objects in respect to the advances it has made and the improvements it has introduced in the practice of obstetrics. Embracing the whole field of obstetric work, my observations must necessarily be brief, and, as regards particular subjects, of an extremely summary character. Necessarily, also, my individual judgment on the progress made in special departments or subjects is simply an individual judgment. I must ask, therefore, for your kind indulgence while I endeavour to portray what appears to me to be some of the more important advances in our science obtained during these twelve years of the Society's existence.

Much valuable information concerning the statistics of midwifery practice has been afforded by the papers of Mr. Bailey, Mr. Dunn, Mr. Mitchell, and Dr. Granville; while new and curious facts concerning the practice of midwifery in our Indian possessions have been furnished by the papers of Dr. Jackson and Dr. Shortt.

The general features of labour and its management have been the subject of several thoughtful essays. Dr. Hicks's paper on the condition of the uterus in obstructed labour will assist the practitioner in determining more accurately when and how to give assistance. Women perish as a consequence of labour more often from want of appreciation on the part of the attendant of the actual condition present than from any want of skill on his part.

Then we have had a philosophical inquiry as to the seat of the pain in labour by Dr. Sansom; a paper by Dr. Eastlake, enforcing the practice of delivery of the placenta by means of external pressure—a real advance in practice; also a valuable and interesting account of the manner in which double monsters are usually delivered, by Dr. Playfair.

That valuable anæsthetic, chloroform, was introduced by our lamented colleague Sir J. Simpson before this Society was founded, but the proper and safe limitations to its use in midwifery practice have been discussed by us on several occasions. We have come—some of us, at all events—to recognise the fact that chloroform has a tendency to make

labour "lingering," that it sometimes enfeebles the uterus, and may thus cause hæmorrhage. This tendency it is proposed to do away with by diluting the chloroform by mixture with alcohol or other vapours, or by accurate mixture with air. Dr. Sansom has pointed out the great liability to the inhalation of poisonously high percentages of chloroform at high temperatures unless proper care be exercised. Mr. Ellis has given us new inhalers for effecting such mixtures. Dr. Kidd has given us, and has been the means of eliciting, much valuable information. The general conclusion I take to be, that in ordinary midwifery practice the anæsthetic should be diluted, that it should not be given to produce the full effect, and that in all cases rather excessive precautions against hæmorrhage are required when chloroform is given.

The vexed question as to the influence of ergot on the fœtus has been discussed in an elaborate paper by Dr. Uvedale West.

The very important subject of distortion of the pelvis—a condition so full of danger to mother and child—has frequently incidentally been before us. Since the formation of this Society, a new form of distortion has been added to the previous list—the spondylolisthesis, or projection forwards of the last lumbar vertebra from caries or other disease of the bones beneath; first described in 1853 by Kilian, of Bonn. Dr. Barnes has contributed in our Transactions an exhaustive paper on this new and interesting deformity, detailing the particulars of thirteen cases. The disease is rare; but we shall probably hear of it more commonly now attention has been directed to its existence.

Of the great obstetric operations, most of which we can happily designate as conservative ones, the forceps is the chief and the foremost. What has this Society done to further the use and efficiency of this instrument? In the first place, this Society has on several occasions expressed itself strongly on the great impolicy of postponing the employment of the forceps when the labour is not a progressive one, and when it is delayed. We have endorsed the opinion

put forward by Dr. Tyler Smith in a very able paper, that the head ought not to rest on the perineum some hours before this instrument is applied; we in the same way repudiate the old maxim that it is necessary to feel the ears before using the instrument; we no longer insist on the os uteri being fully dilated in order to employ it; we do not consider the entrance of the blades into the uterus as prejudicial; nor do we object to the employment of slight degrees of compression to the fœtal head when necessary. These various questions require the use of discrimination on the part of the attendant in particular cases; but the question is generally one of mechanics. In Dr. Tyler Smith's paper, and in a very forcible one by Mr. Harper, the advisability of more frequently using this life-saving instrument is most strenuously insisted on. Unquestionably, however, this Society has still work to do in urging this point on the attention of the profession.

Then, with reference to the *form* of the forceps, something must be said. The tendency has been, in this country at least, to employ an instrument too short in the blades. On the Continent they have not fallen into this error. Attention has been directed to this point in this Society; and our noble exhibition of obstetrical instruments has contributed facts of moment. There can be no doubt that the forceps should have tolerably long blades, and that it should have handles giving the operator some little power.

The last twelve years have seen much that is new in the operation of turning. The true value and place of this great operation has been more accurately defined. Our esteemed honorary Fellow, Dr. McClintock, discussed the matter in a very able paper. The question between the high forceps operation and the operation of turning is hard to determine in a general way, and it is quite evident that the individual difficulty will always have to determine the individual choice. Respecting the method of performing this operation, Dr. Braxton Hicks has introduced a novelty and a great improvement. It is hardly necessary for me to state to you that the bi-manual method of turning, which

we owe to Dr. Hicks, enables us to turn in many cases where it would be otherwise difficult or impossible. It is a real addition to our armamentarium. The new operation will not, of course, supersede the old one, which must still be practised in many cases.

Passing for a moment now to the destructive operations, intended, however, to save the mother, we come to the methods of diminishing the size of the fœtal head. Here much has been done in our Society in the way of improvement. Dr. Braxton Hicks has revived and developed a fact really stated by Hull and Burns many years ago, but lost sight of till now—viz., that the fœtal head can be brought through a very small aperture, when tilted so that the face shall be first presented at the aperture, the cranial bones and the lower jaw being first removed. The practical application of this fact will aid extraction in certain otherwise very difficult cases. Another novelty in the same direction is the suggestion of Dr. Barnes's to cut the head into segments by means of a very strong wire, worked by an adaptation of the écraseur mechanism.

Next we come to the operation of cephalotripsy. Before this Society was founded the cephalotribe was hardly known at all in this country. We have now, in the instrument of Dr. Braxton Hicks, a most portable and practicable instrument. Dr. Barnes, Dr. Matthews Duncan, and Dr. Kidd, of Dublin, may be mentioned among those who have in this Society done much to develop the use of the instrument. Many cases admit of the extremely advantageous employment of this method of delivery, with the effect of saving the mother from possible lacerations in otherwise difficult craniotomy cases; in fact, there is a great deal to be done with it. Short of this operation, we have had much improved craniotomy forceps from Dr. Barnes and Dr. Hall Davis.

The vexed question of the Cæsarean section has come before us on as many as eight occasions. Dr. Greenhalgh has argued strongly in favour of the operation. Dr. Braxton Hicks, Mr. Bryant, Dr. Swayne, Dr. Newman, and Dr.

Roberts have brought cases before us, all of which offer data of importance. It must be said, I think, that the numerous improvements, which I have already adverted to, in the method of extracting the fœtus, very much lessen the frequency of the necessity for recourse to this severe operation, and that expert operators will in future succeed in extracting the fœtus, in cases formerly incapable of being thus treated. On the other hand, the improvements in severe abdominal operations, such as ovariotomy, contribute in some degree to lessen the danger of the Cæsarean section. The general current of English thought is, and has generally been, adverse to the Cæsarean section; but yet we cannot afford to put it on one side. Cases will now and then occur calling for it, and we must be prepared accordingly. Dr. Barnes has recently suggested an improved method of suture for the uterine wound.

The induction of premature labour is an operation which has engaged our attention on many occasions. We have frequently discussed the relation which this child-saving operation bears to other methods of delivery. It must be stated, I think, at the present time, that we are not yet decided as to what is actually the best method of inducing premature labour. There is a very remarkable paper in the 'Transactions,' by Professor Lazarewitch, of Kharkoff, in which twelve cases are related wherein the method of injecting water to the fundus of the uterus was employed; and no one can read the account of these cases without being struck with the safety and completeness with which labour was induced. Then we have the method of inducing premature labour now known as Dr. Barnes's method. This is unquestionably an exceedingly good, and it may be characterised as being the best, method we have in our possession for bringing labour to an end within a certain definite time. Looking, however, to the great difficulty of conducting the labour through its various periods safely to the child, which is an important consideration in most of these cases, it must, I think, be stated that we have not yet quite decided as to what is the best method; and there are still some,

including myself, who think very highly indeed of the method of simple puncture of the membranes.

The curious subject of missed labour has been brought before us by Dr. Wynn Williams, who has detailed additional cases.

Every practical physician of the present day attaches great value to the thermometer. It was very important that we should know what changes the temperature of the body underwent after the occurrence of parturition, in order that we might have some data to go upon in estimating the value of changes of temperature. That information has been given to us in a valuable paper on puerperal temperatures by Mr. Squire.

The diet which is proper during the puerperal state is a subject which was brought before us in a very forcible manner by a late president of this Society, Dr. Oldham. And, so far as I have been able to see, Dr. Oldham's statements have produced a great effect in the practice of the profession in this respect. Dr. Oldham contended strongly for the adoption of a more liberal diet after labour. This is a matter which must be regarded as of great importance.

A new term in reference to hæmorrhage has been added to medical obstetric literature since the formation of this Society. We now recognise the existence of a form termed "concealed accidental hæmorrhage,"—hæmorrhage, that is to say, occurring concealed in the uterus itself, capable of imperilling the patient without necessarily causing a great external loss,—a very dangerous complication of labour. This subject was brought before the Society, and several cases were detailed, by Dr. Hicks. This is an actual addition to our knowledge.

I next allude to what has been put forward by this Society on the subject of placenta prævia. In a very interesting paper, Dr. Greenhalgh laid down, for the first time publicly, so far as I am aware, this proposition, that in a case of placenta prævia the patient should not be allowed to go on to the full term of pregnancy; that a woman with placenta

prævia is constantly in danger of losing her life; and that the practitioner should exercise a special control over that patient, if he does not think it advisable to induce the continuance of labour at the time the difficulty is first observed. With reference to the methods of treatment of this complication, I think that the general current of feeling in this Society is in favour of the eclectic method. I imagine there are few gentlemen of position in this Society who would tie themselves to any one procedure in reference to placenta prævia. On the whole, I think the Society has expressed itself in favour of rupturing the membranes, combined with turning, as generally the best procedure. The partial separation of the placenta in certain cases, which has been suggested by Dr. Barnes, doubtless will be valuable with the limitation which he himself describes.

With reference to post-partum hæmorrhage, I have little doubt that, if the treatment of the third stage of labour previously alluded to were generally practised and insisted upon, we should have very slight occasion to treat post-partum hæmorrhage at all. As to the actual treatment of post-partum hæmorrhage, an important addition has been made to our practice in the injection of perchloride of iron into the uterus in cases where other methods fail. This we owe to Dr. Barnes. It may be said, I think, with reference to this subject, that we have not yet determined that this remedy is entirely devoid of danger. I mention it therefore with this slight qualification. Certainly the most important thing we have to do is to prevent the patient from actually dying under our hands from hæmorrhage; but, in adopting any remedy under such circumstances, we have to consider also the possible secondary effects of this treatment. I do not state this, however, with any wish to discourage the use of the remedy.

With reference to transfusion, a remedy which we have at hand in certain cases where other methods fail, we have had valuable papers from Dr. Waller and Dr. Aveling. It seems that the best method of performing this operation has not yet been decided, although the matter has undergone discussion over and over again. It must be admitted that it is a

remedy which is the only one capable of resuscitating a patient in certain cases; and it is a remedy which must always be considered in alluding to the subject of the treatment of hæmorrhage. It has saved many patients, and will probably save many more. The difficulties in deciding on the adoption of the operation are always very great.

It has been pointed out that adhesions of the uterus on its peritoneal surface may give rise to post-partum hæmorrhage, by preventing the contraction of the uterus. Cases have been brought before this Society proving pathologically the existence of this condition.

With reference to rupture of the uterus, we have had a very valuable paper from Dr. Radford, a well-known contributor. One of the chief values of this paper appears to me to be this, that it proves conclusively that the two chief causes of rupture of the uterus are, a slightly contracted pelvic brim and a rather long labour. It is not so much cases of severe deformity in which rupture is liable to occur, as cases of slight pelvic deformity, and in which the labour has been rather more prolonged than usual. Other causes have been mentioned as inducing rupture of the uterus, but they are not so certainly causes of this grave accident as those I have mentioned.

With reference to inversion of the uterus, we have had a paper from Dr. Tyler Smith alluding more particularly to the mechanism of its occurrence. From the same gentleman we have also had a new explanation of retroflexion of the gravid uterus. Dr. Tyler Smith has pointed out that, in the cases in which the gravid uterus is retroflexed, the retroflexion has generally existed previous to the occurrence of pregnancy.

On the subject of embolism and thrombosis we have had some interesting papers from Dr. Barnes, Mr. Wade, and Dr. Playfair. Women are liable to die suddenly during the first two or three weeks after labour; and the pathological explanation is a very interesting one. The conclusion, as it seems to me, to be drawn from the cases brought before this Society, is the duty of preventing such an occurrence; and it

would certainly appear that the condition which has been most usually at fault has been a general weakness of the system, making it, therefore, extremely advisable, as prophylactic, to sustain the strength of the lying-in woman in every possible way.

On the subject of phlegmasia dolens we have had three valuable papers from Dr. Tilbury Fox, in which the matter is fully considered.

With regard to puerperal fever, which has been so fruitful of discussion in obstetric history, we have had many papers from Dr. Tilbury Fox, Mr. Mitchell, Dr. Beck, Dr. Hicks, Dr. Tyler Smith, and myself. Dr. Tilbury Fox has pointed out to us the close alliance between the occurrence of erysipelas in lying-in hospitals and puerperal fever, a connection which was demonstrated by the figures he brought before us. Dr. Beck has pointed out the pathological fact of the uterus being found very large in cases where death occurred from puerperal fever. Dr. Hicks has developed the relation which scarlet fever bears to puerperal fever, in private practice especially, with the effect of showing the great frequency of the connection between these two. Next, a paper was brought before us containing an account of the experience of the Nightingale ward in King's College Hospital, which has demonstrated, if it required demonstration, the great danger of placing puerperal patients in contiguity with other patients, especially those suffering from surgical affections. Dr. Tyler Smith has brought before us a case in which he injected ammonia into the blood in the treatment of puerperal fever. With reference to the treatment of puerperal fever in general, I think it has come out, from the discussions that have occurred in this Society, that, whatever may be necessary by way of prophylaxis, it is a disease in which copious stimulation is most important, if the patient is to recover.

We come next to the subject of puerperal convulsions. In this department Dr. Hicks has given us a novel pathological fact—namely, that in certain cases convulsions are apparently a prelude to the albuminuria. This is a matter

which requires much further investigation. Dr. Hall Davis has given us a most valuable paper, containing the whole of his experience of puerperal convulsions, treated most successfully on what may be called the eclectic method.

Chorea in pregnancy has formed the subject of a valuable paper by Dr. Barnes. The result was that, of the cases collected, 39 patients recovered and 17 died. Dr. Barnes, on the whole, discountenances the theory which has been put forward of late years with reference to the etiology of chorea —namely, the embolic theory; according to which it is held that the disease arises from the transportation of certain minute particles of fibrin from the valves of the heart to certain cerebral centres.

Eighteen cases of extra-uterine pregnancy have been recorded. In one or two of these the patients narrowly escaped having an operation performed on them, which might possibly have saved their lives—namely, opening the abdomen and arresting the hæmorrhage by surgical means. The diagnosis in these cases is so difficult that it will perhaps be still some little time before the operation is performed.

With reference to abortions, Dr. Priestley has contributed a paper in which he has urged on the Society the desirability of almost invariably endeavoured to remove the secundines instead of leaving them in the uterus; arguing that this is safer, on the whole, even in cases where the removal is somewhat difficult.

We next come, gentlemen, to the consideration of what has been done in the department of the diseases peculiar to women. The various subjects pertaining to this have been discussed at great length and with great frequency in this Society, and various opinions have been expressed with reference to points many of which must be considered as being still debatable.

On dysmenorrhœa, on flexions of the uterus, on inflammation of the uterus, and on irritable uterus, we have had papers read from Dr. Marion Sims, Dr. Greenhalgh, Dr. Barnes, Dr. Tilt, Dr. Meadows, and myself. Dr. Savage and

others have also contributed valuable observations. It is certain that of late years great advances have been made in our knowledge of what may be termed the mechanical diseases of the uterus, and in the relation which exists between these mechanical diseases and functional diseases, such as inflammation. I would not presume on this occasion to speak dogmatically on the subject, holding as I do views which are not quite shared in by gentlemen very eminent indeed in this Society; but I think we have come to recognise this, that the uterus is liable to be affected with certain important alterations in regard to its shape—alterations capable of exercising a very important influence upon other conditions which, perhaps, some might consider even more important—namely, the inflammations of the uterus. With reference to the subject of dysmenorrhœa, I think it may be said that an operation which some time since was very much vaunted for the cure of this condition has come to be rather discountenanced—I mean the making of large incisions into the uterus. I cannot say more, however, on this subject. The discussions which have taken place may be read with great advantage by any one who chooses to inquire into it.

On the subject of ovarian tumours we have passed over a great deal of ground since the Society was first formed, twelve years ago. We have had as many as twenty-three papers or contributions of various kinds relating to ovarian tumours. Although ovariotomy was not first practised in this country, yet it has come to be practised very largely; and the operation has afforded an instance of the fact, that when the British mind does take up a thing it takes it up very efficiently indeed. The success of this great operation has, in fact, obtained for English surgeons and physicians an extreme notoriety throughout the civilised globe. The operation is now performed in Stockholm, it is performed in Germany, and it has been performed in Australia and in India with success. This Society has unquestionably done very much indeed to settle various points connected with the performance of this operation.

On fibroid tumours of the uterus and polypi of the uterus we have had a multitude of papers, discussing various points in pathology connected with this subject, and describing various methods of removing these tumours; and many ingenious appliances have been brought forward for performing the operations. At present, however, I suppose it can hardly be said that we have discovered how to prevent the formation of these curious growths in the uterus. We can control their development in certain cases, but, unless we can act upon them surgically, and mechanically remove them, we cannot be absolutely certain of being able to deal with them satisfactorily.

With regard to cancer of the uterus we can say, unfortunately, very little. Dr. Wynn Williams and Dr. Routh have brought before us cases in which bromine has been used as a remedial agent, and unquestionably with a good result in many cases which have been detailed to us. But I am afraid we are not yet in a position to say that we have a remedy which will cure the disease.

On the subject of retention of the menses, and the operation for relieving this condition, we have had some very interesting papers; also on the subject of vaginal operations, as well as some on the operations for the relief of prolapse of the uterus.

We come, in the next place, to the subject of the diseases of children. The time of the Society was so much engrossed otherwise in the early part of its career that it must be confessed that this subject was a little neglected. We had, however, a most interesting paper some years ago from Dr. Little, proving the connection between difficulties in labour and the production of certain impairments of motor power in the limbs. This paper has attracted comparatively little attention.

Mr. Squire has given us a good account of the normal temperature of new-born children—very valuable indeed, from the same point of view as the observation of the temperature of the mothers.

Dr. Tilbury Fox, in a paper on the etiology of rickets, pro-

pounded a theory in reference to the production of this disease deserving of a more attentive consideration and extended investigation than it has hitherto received. Dr. Fox believes that in cases of rickets the child has been suckled by a woman who has menstruated while suckling her infant. This is a question which should be solved by investigation and further observation.

On the subject of malformations we have had before us as many as fifty cases, specimens and drawings of various kinds, and the Society has collected valuable material on the subject.

In the next place, the Society has, on the suggestion of Dr. Farr, entered on a serious and extensive investigation into the subject of infant mortality in England, its causes and prevention. That work it has been engaged on during the last two years, and the general results of the investigation were communicated to you at the last meeting. Part of the result of the work of the Committee who conducted the investigation is the production of the set of rules for the general management of infants, now produced. These rules have been very carefully drawn up and revised at several meetings of the Committee and Council, and are now before you in a complete form. They will speedily be circulated by the Society as widely as possible. Following other recommendations of the Committee, attempts will now be made to procure better enactments in reference to infanticide, to the registration of midwives, and to enforce their better education.

We have had a large number of papers before us on miscellaneous subjects, which it is difficult to bring into the foregoing list of the work of this Society. We have had upwards of fifty instruments of various kinds exhibited at our meetings, to say nothing of the well-known great public exhibition of instruments some time since held at the Royal College of Physicians.

I say nothing of the indirect effect which this Society has produced upon the profession in reference to obstetric education. Many gentlemen have, through this Society, received what has been virtually their obstetric education.

I now, gentlemen, take leave of you as your President, thanking you very cordially for the manner in which you have assisted me in performing my duties, and wishing the Society an equally prosperous career in the future.

A vote of thanks to the President for his admirable address was proposed by Dr. Braxton Hicks, seconded by Dr. Griffith, and carried by acclamation.

FEBRUARY 1st, 1871.

John Braxton Hicks, M.D., F.R.S., President, in the Chair.

Present—44 Fellows and 5 visitors.

Books were presented from the Edinburgh Obstetrical Society, and the Board of Trustees of the Boston City Hospital.

The following gentlemen were admitted Fellows of the Society:—Mr. R. C. Appleton (Beverley); Mr. F. Beach; Dr. W. C. Grigg; Dr. D. C. M'Callum (Montreal); Dr. J. Perrigo (Montreal); Mr. W. Summerhayes (Ealing); and Dr. S. H. Wheatcroft (Sheffield).

The following gentlemen were elected Fellows:—Clement Godson, M.R.C.S.; Frederick B. Hallowes, M.R.C.S. (Redhill); Philip George Philps, M.R.C.S. (Peckham); Charles Read, M.R.C.S. (Rothwell Street); and William H. W. Wilkinson, L.R.C.P. Ed. (Barnsbury).

Mr. Walter Rigden and Dr. G. E. Yarrow were proposed for election.

The President then delivered his Inaugural Address.

Gentlemen,—The pleasure which I feel at the honour you have done me in electing me your sixth President, for which I return you my best thanks, is by no means unalloyed; because I feel, as those who have preceded me in this chair

have felt, the responsibility which attaches itself to those holding the position of the head of a Society which, instead of meeting for the discussion of theory or hypothesis, devotes itself to the accumulation of facts, and to the extension of improvements in practice, based on the information so obtained; and, because it deals with the questions of life and death, it behoves it on all occasions to act with the serious thoughts such responsibilities demand, and to pursue with an earnest honesty of inquiry the important truths which it is its object to secure.

The anxiety which fills me at the present moment is not decreased by the remembrance of the crises through which your former Presidents have guided you; it is not diminished by the consideration of the importance of the subjects which you undertake to advance, and which already within the lifetime of the Society have been so rapidly and successfully carried forward; but when I look onward, and see how vast a field still remains—I will not say altogether untilled, but capable of much higher cultivation—when I see the want of proper recognition of our department by many of the examining bodies, I feel I shall require all your assistance and all your kind consideration to overlook my failings on the one hand, and to give me your support on the other.

There is no need, after the remarks which fell from your late President at our last meeting, to allude to the past progress of the Society; let me rather direct an Association pledged to advance, to examine and reconnoitre the country well in front. And not only has each department in science and art to make absolute progress, but it has constantly to acquaint itself with the progress of kindred sections, and simultaneously to adapt all its parts to the changes and advances incessantly occurring. For I need scarcely add that nothing can tend more to cramp the mind than constantly to pursue one object, alone and unassisted, with one's eye directed neither to the right nor the left of one's own track.

The Medical Profession is strictly one and entire; the only excuse for its division into departments is that its field is too

vast and entire for individual exertions to cultivate it up to the perfection required by modern discoveries. Each branch is so intimately connected with the other, that serious loss is suffered if but imperfect communications be promoted between them. Woe to that branch which, while journeying its own way, though apparently advancing, forgets to make use of the discoveries of its fellow-workers!

Let us, then, individually as workers, and this Society as the hive, earnestly endeavour to gather whatever is useful to us from every field. Our labour will be sooner or later recognised. Let us forget to do this, and we shall justly be regarded as "specialists" in the sinister sense of the term.

It is well to call to mind the object and value of a society. As I understand them, the objects proper to such a Society as this may be comprised under three heads—the scientific, the practical, and the political. I place the scientific and practical first, before the political, because the latter object will nearly cease when the department has received its due attention in the Profession and the State; and, indeed, strictly speaking, a Society like ours should give far greater attention to the acquirement of knowledge and improvement in practice than to the external *status* of the subject, because it is by true advance in the former that the liberal recognition of the importance of obstetrics will be ultimately secured, though it may be but tardily. Now, the value of a society embracing scientific and practical sections is this:—

1st. That it gives all those joining it a certain amount of interest in the subject. To some it is a strong stimulus—and this is particularly important as regards the younger members, for in them we find the greatest energy and capacity for work; so that, a definite direction being given, a result is obtained which would have been wholly wanting had no such excitement been present.

Then in the second place, a society forms a means of intercommunication of ideas, and I would appeal to any Fellow of this or any other society whether the attendance on a single meeting had not in some way or other tended to enlarge his own knowledge by the information thus obtained; or had his

reflective powers stimulated by the hints and suggestions thrown out informally by the various speakers.

There is another and third way in which societies of this kind act beneficially—namely, in enabling us to acquire knowledge by joint labour. It seems to me that the learned societies have not sufficiently availed themselves of the power that association gives them. It is true that some do make efforts in this direction; but it is questionable whether any society has carried out this principle to the extent it might have done towards the acquisition of knowledge. How many facts are there, the collection of a sufficient number of which is impossible by one person, but which would be easily gathered by many? Take, for instance, the effect of zymotic diseases in the puerperal woman. We want information from those engaged in general as well as in consulting practice. The information derived from one will supplement that obtained from the other; but as these cases occur to too limited an extent in any single practice, the collection of the experience of a number, by means of a society, is a most efficient and ready method of bringing together facts sufficient to enable us to arrive at a safe conclusion. Numerous similar instances will readily occur to your minds. If you but carefully consider the vastness of the subjects embraced in our department, of which we have at present only an imperfect knowledge, you will, I am sure, agree with me, that it argues but a partial acquaintance with the facts to say the "mine" of any Medical subject is at all "worked out."

But although I would place the political aspect of this Society last, this is not because it is not important; on the contrary, the position which obstetrics take in the Profession is of great importance, both to the Profession and the public; because if the subjects it embraces are considered merely as an appendage to the Medical education, to be followed or not according to taste, and not as an integral portion of that education, it is not likely that those entering the Profession will consider it of any importance, at least not worth the trouble of additional work. As a matter of fact, students attend to

those questions likely to be put at the examinations; it is only a few who have the foresight to recognise its subsequent advantage to them in their after career, and it is not every one of those who have the energy to add to their other studies one which is not absolutely required. It might be thought by many not concerned with the real state of obstetrics, as shown by the position it holds at the examinations, that this branch of Medicine had of late at least been fairly represented in the requirements of examining bodies. Let them, therefore, judge from the following statement:—The only compulsory examination in Obstetrics is given by the Society of Apothecaries. The College of Surgeons, although it has a separate examination for the licence of midwifery, does not examine in the subject for the diploma of Member. It is true that candidates for membership are required to attend a three months' course of lectures on midwifery, but this is all. It requires no attendance of cases of labour, nor does it require any general knowledge of diseases of women. Thus it will be seen that it is only through the Society of Apothecaries that any requirement is made of knowledge of obstetrics.

But none of the examiners, though gentlemen of excellent report, hold any appointment of an obstetric character in any branch, while the requirements on the schedule are only a three months' course on midwifery and diseases of women, and the attendance on twenty cases of labour. But what is a "three months'" course of midwifery and diseases of women? As a lecturer myself, I can answer that it requires a considerable amount of ingenuity to condense even midwifery proper into three months. It is quite impossible to do justice to the subject of dystocia in so short a time, and as for the diseases of women, it is never attempted in the three months' course. To treat of the perilous operations of midwifery in a manner suitable to their importance would alone require a three months' course, taken in conjunction with the description of the cases requiring them. It may thus be seen how much time can be spared for the diseases of women; and the chance of a student obtaining any knowledge of the subject depends

entirely on the few clinical lectures his teacher may be enterprising enough to give, and on his own energy in attending the out-patients and the gynecological ward when his hospital possesses one,—for there are hospitals at present in London without any separate ward for diseases of women, and some even without beds. Indeed, at the present moment one hospital has no obstetric teacher at all.

Is it to be wondered at that the student, as a rule, takes less interest in this department than in many others, when he sees the subject so little regarded by the leaders of the profession? And thus it is that gentlemen go into practice deficient in that very branch of which, of all others, they will earliest find the want, and in which the public expect them to be the best informed. Those who present themselves for the voluntary examinations of the College of Surgeons—I mean for the licence in midwifery—do, of course, prepare themselves more thoroughly, and, as the examiners are obstetricians, it will be no fault of the College if the candidates slip through. The same may be said of licentiateship and membership of the College of Physicians and the University of London. But to what number will this apply? Only between fifteen and twenty pass the L.M. of the College of Surgeons. The College of Physicians cannot pass many more for its two degrees, and the University about twenty per annum. Supposing we allow seventy for the three bodies a year, you will see that not one fourteenth part of those entering the profession have any higher examination than that of the Society of Apothecaries.

But it may be asked—and, indeed, it has been asked—What is there in Obstetrics which entitles it to claim the third department in the healing art? I would answer—For the same reason that it was found advisable to separate Surgery, or the study of those diseases which require the use of the hand, from those which do not require manual interference. There is no reason derived from the nature of the thing why the two should be separated mentally or physically; but it is found, in order to develop each to the utmost of human power, that a more separate study of them was advantageous

to the perfection of practice. The one is not really inferior to the other, although they exercise different and, to a certain extent, opposite qualities of the mind. The surgeon employs his senses of sight and touch in excess, his mind is exercised rather on the concrete; while the physician employs his senses of touch and hearing, his mental powers are exercised rather on the general, and there is a greater demand on his inductive powers, in consequence of the difficulty of reaching the deeper organs of the body except by inference. But, in truth, these two branches of the healing art, although conveniently separated in the larger towns and hospital practice, cannot rightly be practised separately without the practitioner of the one possessing a very extensive knowledge of the state of the other. In practice they constantly are intercurrent; and much and serious detriment would occur to the patients of either section if the attendant of the one were neglectful of the state of the other.

For the same reason it is argued that obstetrics should be divided from what is called medicine and surgery, so far as these latter are from one another, but no farther. Each at certain points overlaps the other, but at the same time each takes a ground not occupied by the other. Obstetrics takes a position antagonistical to neither; its own ground is defined as clearly as that of medicine or surgery, not quite so extensive in its grasp, but enough, and more than enough, to occupy the attention of those who study it. And it is notorious that it is found, and practically acknowledged to be, so great an addition to the work and researches of the physician and surgeon practising purely, that these have given up its practice to others.

But is the work thus handed over to others so small that it may rate with ophthalmic or dental surgery? Let any one regard its scope—its application to a large portion of half of the race, and to each one of these many times during her life; to the process by which the race of man is sustained, involving changes in the uterus, having no parallel in any other organ; —let any one consider the important questions which arise in consequence of any interference with Nature's arrangements,

and that not one life only, but two, frequently are at stake; let him further observe the influence the organs, both in the pregnant and unimpregnated state, possess on the general health of the individual, both morally and physically, to an extent not at all approached in the other sex. The large sympathy which these organs hold with the other organs, and with the nervous system in general, the high exaltation of the emotions in women, as well as the influence these possess over the sexual organs, and *vice versâ*, combine to make it highly important that the study of the influence which the uterus has upon these other parts should be accurately known, so that, on the one hand, the sexual organs should not be unduly blamed, nor, on the other, their enormous influence more or less ignored. Nothing but thorough study can place this on its true basis, and this study legitimately falls under the province of the obstetrician. It may, I think, be safely affirmed that a woman, whose uterus and appendages are in a state of perfect quietude, tending to the asexual condition, is very like to the other sex in general character, if we add a slightly increased susceptibility of the emotions; but she is almost a different being to one whose uterus and appendages have, for a long time, been in a state of highly excited sensibility. The investigation of this state and of its cause is best carried out by those who have had numerous opportunities of seeing woman under all the vast disturbances she is subjected to in consequence of pregnancy and parturition.

Then there occur, in the neighbourhood of these organs, tumours, the resemblance to which is not found about other organs, requiring great care and skill in diagnosis—I mean extra-uterine fœtation (than which few things are more difficult of detection), hæmatocele, and inflammatory swellings of great size. The diseases of the other viscera are not so complicated; their number is definite, and, therefore, in diagnosis one has only to discriminate between a known series. Not so with the uterine organs; and as the tumours of the sexual organs and the adventitious enlargements about them attain a size which brings them into contact with the abdominal viscera, and into contrast with their diseases; and as

the uterus during the various stages of pregnancy, and its abnormalities, also rises more or less into the abdomen, it is clear that a knowledge of the diseases of the various abdominal viscera is indispensably requisite to make an accurate diagnosis.

Again, inasmuch as parturition is liable to be attended by various lesions, such as rupture of the uterus and of the perinæum, each of which is best treated (if at all) directly after the accident, it is needful for him to know how to perform gastrotomy, and to close the ruptured perinæum.

Besides these requirements, it may be necessary to perform Cæsarean section, and as the operation requires a practical knowledge of the anatomy and habits of the pregnant uterus, it is clearly more advantageous that the operation be undertaken by the obstetrician. The management of the external wound is by far the most simple portion of the process. Besides, if it be performed jointly by surgeon and obstetrician, there is always an opportunity for mutual blame. These arguments would be gratuitous were it not that the rigid line marked out between the divisions in the healing art in this metropolis renders it necessary to explain where one would think, *à priori*, no explanation would be required.

And, forasmuch as hæmorrhage may be fatal, it is also necessary that obstetricians should be able to transfuse; indeed it is principally by them that transfusion has attained its present position.

Then, there is the disputed land of ovariotomy, which, after the external incision, is as much obstetric in the knowledge required as any portion of the department; and the detachment of the adhesions, &c., is more after the manipulation practised by obstetricians than of surgeons, imitating closely the mode of detaching the placenta when adherent.

Besides, there is another reason, and I think of much importance, applicable to this operation, and probably capable of general application—namely, the disadvantage to the patient for the operation to be undertaken by a person not responsible for the diagnosis. Now, as the diagnosis is for

many reasons best made by the obstetrician, and the suitability of the performance settled by him, it is much better that the same person should operate. In all cases of equal severity there are, when things are nearly evenly balanced, small circumstances which would have much influence upon ourselves in determining whether we should do the operation or not, but which we should feel to be probably insufficient to guide another's action. For instance, the diagnosis may have a degree of ambiguity about it, and yet the patient may be sinking rapidly. We might consider an exploratory incision justifiable, and would carry it out ourselves; but another might not think so, or would not care to run such risks. This objection to divided responsibility holds good in all cases, though the instances are less severe generally than ovariotomy; but the removal of the fœtus through the abdominal parietes is perhaps even a more marked example of the dangers of double direction.

Of course, in ovariotomy the surgeon could study obstetrics, so far as it bears upon the diagnosis, but he would have to go farther into obstetrics than the obstetrician would have to learn of surgery.

Besides, the existence of suppurations in the pelvis, and their difficult diagnosis, must require a knowledge of the pelvic organs under all their varying conditions, mainly seen by the obstetrician; he is, therefore, obliged to pay attention to the habits and treatment of abscess elsewhere; but his obstetric knowledge is as necessary here as in other instances.

Thus it is that, although it has essentially a separate ground from medicine and surgery, yet obstetrics requires both medical and surgical knowledge, the cultivation of all the senses, particularly of touch, combined with manual dexterity, carried out with extreme gentleness and endurance; and it demands the exercise of the inductive faculties to the same extent as is required by the physician, but perhaps not so frequently. For these reasons, and many others, it is argued that obstetrics holds a distinctive position from medicine and surgery, sufficiently great in extent and importance to rate along with them, and it is but a logical conclusion

that, so far as these two are held separate, so should obstetrics be held, but no farther. If these two are placed together, either in a society or in the examinations, then, logically, should this be conjoined; if, however, it is considered advisable to separate them, for perfection of study and convenience of examinations, then the three should be separated, but always united in spirit.

What an advantage would be gained if each section would remember that it exists, not to exalt itself, but to contribute to general progress! What advantage can it be to depress any one of the sections? The depression of one is by so much the depression of the whole—the enrichment of one the exaltation of the whole.

Can neither medicine nor surgery gain anything from the facts observed by obstetricians? If they have not, then it is because they have not looked. The aspects of nature in health and disease are so various, and human knowledge, unfortunately, is so imperfect, that we can afford to lose nothing in the way of information; and our progress is quickest when we stimulate each to its highest point of attainment.

I hope, gentlemen, that this Society will not be a loser by placing the Presidency in my hands; I should have great misgivings did I not recollect that, after all, the progress of a society depends far more on the enthusiasm of the individual Fellows than on the assistance given by its President—the former is a constant stream, the latter only intermittent at best.

Dr. Heywood Smith exhibited a cast of the head of a child he had recently delivered by cephalotripsy. He said that he exhibited the cast, as he was desirous to help in establishing the fact that cephalotripsy was a far superior operation to craniotomy; better for the mother, as it could be performed in far less time and with less risk of injuring her, and better, if he might so say, for the child, as there was

less risk of the child being born alive, an accident which had happened on more than one occasion after craniotomy.

He was called in consultation at 10 a.m., on January 13th, to see a woman, E. H—, æt. 31, in labour with her first child. She was of fragile build, and weighed 9 st. 3 lb. Labour had begun, with slight pains at 9 a.m., January 12th, and set in more regularly at 9 p.m. The uterus was rather anteverted at the beginning of labour, owing to a somewhat lax condition of the abdominal walls. Between 1 and 2 a.m. on January 13th the head had been arrested at the brim, and since then had made no advance. On examination there was plenty of room found in the pelvis posteriorly, but the head was fixed on the horizontal rami of the pubes, from their too close approximation.

Dr. Heywood Smith made an attempt to reduce the size of the head by compression with the forceps, but, though considerable pressure and traction were made, the head did not advance. As the woman's strength was failing, he determined at once to perform cephalotripsy.

After the perforation of the head the blades of Simpson's cephalotribe were adjusted and locked, but, as very considerable traction was necessary, and owing to the space in the pelvis posteriorly, the blades slipped. An opportunity was thus given to try the crochet, which was soon discarded as not giving sufficient purchase, and the blades of the cephalotribe were again introduced; this time the base of the fœtal skull was easily crushed, and with considerable force the head was delivered; there was some difficulty in extracting the shoulders. The placenta came away easily. The uterus, when contracted, remained of large size, the fundus reaching to the umbilicus and lying on the left side of the abdomen, but in a few days became more natural on the expulsion of some large clots.

The woman recovered perfectly. Dr. Heywood Smith had that day examined the patient to determine the point of contraction. He found that the horizontal rami of the pubes approached each other so much, that at an inch and a half from the symphysis inwards there was scarcely more than

an inch and a half space between them. The child was a female; it measured 20¾ inches, and weighed 9½ lbs.

Dr. Protheroe Smith exhibited the pelvic viscera of a woman who had recently died from spontaneous rupture of an ovarian cyst, complicated with a fibroid tumour of the uterus. The patient, a single woman, æt. 48, a laundress, came to the Hospital for Women on the 29th of last December, under the care of Dr. Heywood Smith. She stated she had been the subject of diarrhœa for eight months, occasionally the bowels acting fourteen and fifteen times daily, with sacral and bearing-down pains, the abdomen being distended. Abdomen was found irregularly distended and lumpy. In the left inguinal region was a hard swelling of the size of half a duck's egg; in the right hypogastrium was a larger mass in which fluctuation was distinct, whilst the regions of the umbilicus and flanks were resonant.

She was admitted as in-patient under Dr. Protheroe Smith on the 16th of January, 1871, when, in addition to the above report, there was found fluctuation extending from pelvis to umbilicus on the right of abdomen and in the right cul-de-sac of the vagina. In the left was a hard tumour, the size of a small orange, corresponding to that felt above the left ramus of the os pubis; the cervix uteri was pushed forwards towards the pubes; a hard mass behind and to the left fixed the cervix immovably. The uterine sound, passed somewhat beyond the normal extent, was moved in every direction by the hand grasping the smaller tumour in the left groin, leading to the diagnosis that it was a fibroid of the uterus pressing against the rectum and adjacent parts. The bowels had been constipated for some time, and had resisted repeated doses of aperients. The irregular lumpy feeling of the abdomen on the left side showed a large collection of fæces. The urine was loaded with lithates, and pulse 100 and feeble; countenance anxious and anæmic. Severe griping pain accompanied the evacuation of the bowels on the 20th. Early next morning severe abdominal pains

and vomiting suddenly occurred, sinking rapidly followed, and she died in about eight hours afterwards.

Autopsy, five hours after death, discovered a flaccid ovarian cyst occupying the right of the abdomen to within an inch of the liver. This was the right ovary, the left being normal, only covered with organized lymph. The abdominal cavity contained two or three quarts of dark coloured fluid, which was seen pouring out of an opening in the sac, immediately behind a globular fibroid tumour occupying the left angle of the fundus uteri, of the size of a small orange, which covered the aperture in the cyst; the cervix uteri was agglutinated by firm adhesions, as were the pelvic organs generally by old organized lymph.

This instance of ovarian disease, complicated by a fibroid tumour of the uterus, diagnosed during life, which had evidently, by its pressure and irritation on the rectum, not only caused the previous diarrhœa, but had produced the peritonitis which had terminated so extensively in effused lymph, and had finally led to the rupture of the cyst and occasioned death, Dr. Protheroe Smith exhibited in evidence of the necessity of performing ovariotomy early under similar circumstances.

The PRESIDENT observed that Dr. P. Smith had alluded to a very important question in practice, namely, how early the operation is justifiable in ovarian disease. There can be no doubt but that many lives are lost whilst waiting, and he instanced one where another month would have rendered the operation impossible.

Dr. PHILLIPS remarked that the early removal of ovarian cysts had occupied the attention of many practitioners, and that an American physician was so impressed with its importance that he advocated in certain cases the performance of the operation through the posterior wall of the vagina while the cyst was yet small.

Dr. BARNES observed that there was another mode of dealing with very early ovarian dropsy from which good might be expected. A woman presented herself as an out-patient, complaining of retention of urine; she was admitted into the hospital. He found the uterus driven forwards against the symphysis, compressing the bladder, by an elastic swelling in the brim of the pelvis. The tumour could not be reached from above the pubes. The position

of the uterus was determined by the sound. Concluding that the tumour was an ovarian cyst containing fluid, he punctured it by Dieulafoy's aspirator-trocar and drew off sixteen ounces of fluid, verified as ovarian; improvement followed, and the uterus retreated to its natural position. In three weeks the bladder distress returned, and it was found that the uterus was again pushed forward by the tumour. It was again tapped, and six ounces of fluid came away; six drachms of tincture of iodine were thrown into the cyst. The patient was again better; no marked local symptoms followed. Some weeks later a firm mass was felt in the place of the original swelling; and as the uterus was more forward than natural, it was resolved to puncture again, in the hope that, by letting off any little fluid exudation in it, complete shrivelling of the cyst and cure might be effected. But soon after, symptoms of irritative fever set in, attended latterly by jaundice, under which the patient sank after some weeks. No autopsy, unfortunately, could be obtained. Notwithstanding this issue, he thought the method deserved further clinical investigation.

Dr. Wiltshire remarked that the operation referred to by Dr. Phillips was called elytrotomy, and had been suggested, and he believed successfully performed, by an American physician. In looking at Dr. Smith's specimen, he observed that the fibroid tumour which grew from the peritoneal surface of the fundus uteri was somewhat pedunculated. Had it grown from the interior of the uterus and projected from the fundus into the cavity, it would have been a polypus. He thought that, had gastrotomy been performed for the ovarian tumour, the uterine fibroid might also have been removed.

Dr. Edis exhibited an ovarian cyst that he had removed from a patient at the Soho Hospital on the 28th ult.

There was nothing very remarkable about the case itself; but, though ovariotomy is so frequently performed, it is comparatively seldom that Fellows had an opportunity of examining the cysts. The bulk of it consisted of one large sac, enclosing numerous smaller ones in its interior, some of them so loosely attached by small pedicles as to be easily detached, one of them being shot out from the parent cyst during the operation.

The tumour had rapidly increased in size during the last

month, and a considerable amount of peritonitis had taken place, producing adhesions over a greater part of the upper surface, readily breaking down by the hand. It exemplified the advantage of operating early, as in all probability no adhesions had taken place a month before the operation. The pedicle was transfixed, ligatured, and returned into the abdomen. The patient was doing well.

Dr. Wiltshire agreed with Dr. Edis that, as a rule, it was probable that the vascularity of ovarian adhesions increased with their duration, and, therefore, that more hæmorrhage might be expected to follow the severance of old than recent adhesions. He thought the occurrence of small cysts projecting into a large cyst was not uncommon, and mentioned that he had seen such cysts broken up by the hand into the cavity of the large cyst after the evacuation of the contents of the latter, a plan adopted by Mr. Spencer Wells. He had seen both Mr. Wells and Dr. Graily Hewitt tap secondary cysts with the trocar through the first cyst without withdrawing the instrument, thus evacuating the contents of two or more cysts through one opening. The evacuation of such cysts before attempting to break down any adhesions was clearly desirable, so that the escape of their contents into the peritoneal cavity might be avoided.

ON IRRITABLE BLADDER IN THE LATTER MONTHS OF PREGNANCY.

By W. S. Playfair, M.D., F.R.C.P.,
ASSISTANT OBSTETRIC PHYSICIAN TO KING'S COLLEGE HOSPITAL AND PHYSICIAN TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

There is a form of irritable bladder which, in my experience, is by no means of rare occurrence in the latter months of pregnancy, and which gives rise to much distress and suffering.

The chief symptom met with is the extreme frequency with which the patient finds it necessary to pass water, sometimes the calls being incessant, accompanied with straining efforts and pain.

In the cases I have met with the misery resulting from this

state of things has been great, and in one of them, at least, the irritation was sufficient to induce symptoms of considerable gravity.

I do not find, after a pretty extensive reference to standard obstetric works, both British and foreign, that this condition seems to have received much attention. References to troubles of micturition after delivery and in the early months of pregnancy from retroversion of the gravid uterus are common enough, but the peculiar form of dysuria I refer to has either escaped attention, or has not been deemed of sufficient importance to merit a detailed description. This is the more to be regretted, as I believe that this form of irritable bladder is mainly due to a distinct mechanical cause, viz. an oblique or transverse position of the fœtus in utero, and that, while it resists all general or medicinal treatment, it is easily and effectually cured by the simple expedient of altering the position of the child by means of external pressure on the uterus.

In the non-pregnant state pressure is a very frequent cause of irritable bladder, as from an anteflexed uterus or the pressure of a pelvic tumour, uterine or ovarian. All our standard works on diseases of women fully recognise this as a cause of this distressing condition; and it is not difficult to understand why the same result should follow when, from some malposition of the fœtus, the bladder is subjected to irritation and pressure during pregnancy. In two out of the three cases I shall presently narrate the patients complained greatly of the tumultuous and excessive movements of the fœtus. Both of them said that these were more marked than in any of their former pregnancies. The child was constantly changing its position, and in one of them, in whom the attacks of dysuria occurred on several occasions at intervals of a few weeks, it was very clearly made out that the suffering always coincided with an oblique position of the fœtus, and disappeared whenever the long axis of the child coincided with the long axis of the uterus.

If the causation of the affection is recognised, the treatment becomes almost self-evident. It is worse than useless to

attempt to remedy the effect without removing the cause, and medicinal agents will clearly be of no avail as long as the mechanical source of irritation remains in active operation.

The facility with which the position of the fœtus in utero can be altered by external manipulation has of late years been fully recognised, especially on the Continent, where Wigand, Stoltz, Mattei, Martin, and other writers, have demonstrated that version can readily enough be performed by external manipulation alone. Indeed, the facility with which the position of the fœtus can be altered by pressure, judiciously applied, is very remarkable, and can hardly be appreciated by those who have never attempted it. It is equally easy to recognise a transverse position of the child by abdominal inspection and palpation. When the longitudinal axis of the child lies in the long axis of the uterus, as in head and breech presentations, the uterus reaches its normal height, corresponding to the length of gestation; its longest diameter extends from above downwards; and on palpation the protuberance of the breech or head may readily be made out at one or other side of the fundus. In oblique positions, on the other hand, the long axis of the uterus lies more or less transversely, and its regular ovoid shape is lost; the extreme length of the uterine tumour is less than it normally should be at the period of gestation arrived at; and the protuberances of the breech and head can be made out in the flanks of the patient. Should we, having made out this state of things, proceed to alter this position of the child by manipulation, the change in the position of the fœtus will be readily and strikingly apparent.

A brief history of cases, however, will more effectually illustrate these facts than any more detailed description.

Case 1.—Mrs. —, æt. 28, was pregnant of her third child. I was engaged to attend her in her confinement, which was expected about the 20th of April, 1869. On the 8th of March I was requested to see her. I found that for several days she had been suffering from extreme irritability of the bladder, which had commenced a week previously, had been steadily

increasing, and had resisted treatment, which had already been adopted.

The calls to empty the bladder were almost incessant, both during the night and day. From a quarter to half an hour was the longest period that she could go without being obliged to pass water, and the effort was accompanied by straining and much pain. The urine contained some muco-pus, but was otherwise normal. Every conceivable medication was tried, and I find that the patient took liquor potassæ, belladonna, uva ursi, triticum repens, morphia by subcutaneous injections and in the form of pessaries, and prolonged warm hip-baths, all without appreciable benefit. She got little or no sleep on account of the incessant calls to empty the bladder, and, being a woman of an extremely nervous temperament, the irritation was producing effects which made one really anxious about her. On careful abdominal examination I recognised that the fœtus was lying transversely, and the probability that this was the cause of the dysuria suggested itself to me. Previously to making any attempt at rectification I had the advantage of meeting Dr. Arthur Farre in consultation on the 16th of March, who fully agreed with me as to the cause of the troubles. We found the long axis of the uterine tumour to be placed transversely to that of the abdominal cavity; the extreme height of the uterus did not reach above the umbilicus; above and to the right side there was a hard resisting mass, and the fœtal heart was heard beating below and to the left of the umbilicus. Per vaginam nothing satisfactory could be made out. The diagnosis, therefore, was that the child was lying in an obliquely transverse position, with the head in the left iliac fossa; the irritation, no doubt, being caused by the pressure of the shoulder, or some other prominent portion of the body, on the bladder. Attempts at rectification were now commenced. Standing by the side of the patient, I made gentle upward pressure on the protuberance of the breech on the right side with the palm of the hand, while counter-pressure was made in the opposite direction and downwards with the other hand.

By a series of gentle gliding motions of the hands in opposite directions the contour of the uterus was manifestly altered. This was first done on the morning of March 17th, and repeated on the same evening and subsequent morning.

A decided improvement at once commenced. On the night of the 18th I find it noted that the patient slept for several hours, and that she was able to go for upwards of two hours without emptying her bladder. The mucus in the urine had disappeared. In a few more days all the symptoms had passed away and did not return, and she was delivered on April 10th, the head presenting.

Case 2.—In the second case the symptoms were at no time so severe, though distressing enough. It is interesting, however, from this fact, that, taught by my former experience, I lost no time in fruitless attempts at relieving the symptoms by medicinal agents, but, having satisfied myself that the fœtus was placed obliquely, at once proceeded to rectify the position. This was immediately followed by the disappearance of the symptoms, which, however, recurred in about a week's time. This is not surprising, considering that the movements of the child were as excessive as they were, so that it seemed to be constantly altering its position, as, indeed, we know that the fœtus so frequently does in the latter months of pregnancy. On several occasions I performed the same manœuvre, always with the same favorable result, and the patient was so satisfied with the effect of the operation that, whenever the irritability of the bladder commenced—and its advent was always accompanied by an alteration in the shape of the uterus readily appreciable by herself—she at once sent for me in order to have the necessary manipulation applied. This patient's symptoms were thus readily held in check, though doubtless, had they been allowed to run on, they might have produced results as severe as in the former instance.

Case 3.—The third case is at present under observation. The patient is now at the end of the eighth month of her fifth pregnancy. She is a lady of nervous temperament and

delicate health, and although she has suffered greatly from various troubles in this as in former pregnancies, she never before has had any troubles referable to the bladder. On the 22nd and 23rd of November she began to suffer from extreme irritability of the bladder. On the latter day she was very ill indeed; she had to micturate every ten minutes or quarter of an hour, and during the night she was as bad as in the day. On abdominal palpation I recognised the transverse position easily. The breech was in the right lumbar region, the upper edge of the uterus was on a level with the umbilicus, and the fœtal heart was beating near the left groin. I had no difficulty in changing the position of the child. Gentle pressure on the breech caused it to ascend at once, and in a few moments the shape of the uterus was entirely changed, its upper margin now reaching to the ensiform cartilage. At the same time the head could be distinctly felt through the cervix per vaginam, where it could not previously be found.

The following extract from a note received from this patient will illustrate the beneficial effects of this simple procedure better than any more detailed statement of my own:—"After your visit to me I found the greatest relief, having no desire to pass water more frequently than usual, and the pain from the movements of the child and the feeling of depression had quite left me. Since that I have had no return of the disagreeable symptoms, and have been able to drive out and occupy myself as usual."

These cases will suffice to illustrate the nature of the affection I am describing. I do not, of course, wish to be understood as meaning that irritable bladder in the latter months of pregnancy can always be traced to malposition of the fœtus. I am far from believing this to be the case; I merely wish to express my conviction that it is one of the causes of this distressing affection, a cause readily discoverable when it exists, and easily removed. And as irritable bladder in its more aggravated form produces so much pain and suffering, I trust it may not be entirely useless to direct attention to one of its sources hitherto insufficiently recognised.

Dr. BARNES thought Dr. Playfair's observations had an interest beyond the one dwelt upon of relieving dysuria in pregnancy. If it should be proved that dysuria was a symptom of transverse or oblique position of the child, we should have a valuable indication for correcting the malposition before labour came on; substituting external bi-polar version, under the most favorable circumstances, for turning at the time of labour. He would ask why Dr. Playfair, having rectified the position of the child, did not secure it in due relation to the axis of the uterus? This might be done by means of a bandage and two pads, one applied to each pole of the fœtus, and directed towards the median line.

The PRESIDENT considered himself much indebted to Dr. Playfair for having pointed out the fact that the obliquity of the uterus produced irritability of the bladder. He was, however, at a loss to account for it by the pressure of the fœtus on the bladder, because the head in ordinary positions would press quite as much as a shoulder, if not more, and that against the most irritable portion of the bladder, namely, the lower portion. He would suggest another explanation—the disturbance to the form of the bladder by the altered form of the uterus. It is well known that the vertical diameter of the bladder is increased and its antero-posterior decreased in the latter months of pregnancy; may not this arrangement be interfered with so as to produce the symptoms complained of? He would ask Dr. Playfair whether he had felt the shoulder, in the cases quoted, absolutely in contact with the bladder.

Dr. PROTHEROE SMITH wished to ask Dr. Playfair if, in the instances of irritable bladder he had alluded to, he had observed a want of lumbo-sacral curvature of the spine, as he had remarked in some cases of extreme irritability of the bladder in pregnant women—not only a straight spine, but, as a result, an increased projection of the abdomen forwards, especially in women deficient in muscular tissue of the abdomen. The gravid uterus, thus becoming anteverted, unduly pressed upon the bladder. In such instances, in the latter months of utero-gestation, he had found his "pelvic band" effectually relieved the distressing symptoms, supplying, as it did, the deficient parietal support by holding the pelvis in a more oblique position, and so making the abdominal walls more tense and therefore capable of rectifying the malposition and of upholding the weight of the gravid uterus.

Dr. PLAYFAIR said, in reply, that all these cases had terminated by head presentations. He did not, of course, hold that all cases of irritable bladder in pregnancy could be traced to this source, but only that it was a frequent and hitherto unrecognised cause of many severe cases, readily removable by the appropriate treatment. He had met with other cases of irritable bladder in pregnancy where he was unable to make out this state. The

three cases he had detailed were the only ones he had seen in which the transverse position of the fœtus could be clearly made out, and in all of these external version had given immediate and complete relief. He thought the suggestion of the President, that the dysuria might in some degree depend on alteration in the shape of the bladder, due to the transverse position of the fœtus, was an ingenious one, and very possibly might have something to do with its causation.

MARCH 8, 1871.

John Braxton Hicks, M.D., F.R.S., President, in the Chair.

Present—32 Fellows, and 4 visitors.

Walter Rigden, M.R.C.S., and George Eugene Yarrow, M.D., were elected Fellows of the Society.

The following gentlemen, recommended by the Council, were elected Honorary Fellows of the Society: Alexander Keiller, M.D., of Edinburgh, George H. Kidd, M.D., of Dublin, and Richard T. Tracy, M.D., of Melbourne, Victoria.

Mr. Times exhibited a fœtus the subject of Encephalocele. The child presented by the face, and was stillborn.

Dr. Westmacott exhibited a remarkable specimen of "Cork-screw funis."

Dr. Granville Bantock introduced to the notice of the members of the Society a Vaginal Speculum which, it appeared to him, was not yet sufficiently known. The instrument was the invention of Dr. Neugebauer, of Warsaw, and consisted of two parts—the inferior or posterior, and the superior or anterior, exactly similar in shape. When in use the parts or blades are introduced separately and the latter reversed and fitted into the former. The invention was

more correctly spoken of as a set, or rather two sets of specula, than as one instrument, as it consisted of several parts, one complete speculum being formed by taking either a larger or a smaller than one of the intermediate parts. One set, the larger, was intended for the fertile, and the other, the smaller, for the barren or unmarried woman. He had extensively employed the instrument comparatively and otherwise, and had found it more generally useful than any instrument with which he was acquainted. It brought the uterus admirably into view, and was exceedingly convenient for all the minor operations, such as scarification and the application of the various caustics. For this purpose he had used it almost to the exclusion of every other instrument. In practice he had found the original larger instrument rather short, whether due to a difference in the females of the two countries or from other cause he could not say (for the labia were apt to overlap the external opening), and the smaller too large, and he had had made a smaller set, of which the smallest did not exceed the diameter of an ordinary sized index finger. With this, which was adapted for the smallest vagina in which access was possible, the uterus could be brought into view better than by any other instrument; and it had this further advantage that, while the uterine opening was extended to the limits of the superior vagina, the external opening was neither increased nor diminished—an important advantage in the case of the unmarried woman. The instrument was moreover very compact, easily kept clean, could not get out of order, and would not break from a fall.

A CASE OF DEFORMED FŒTUS WITH THE PLACENTA ADHERENT TO IT, THE INTESTINES UNCOVERED AND PRESENTING; WITH A DESCRIPTION OF THE DELIVERY.

By David Johnson, M.D.

(Communicated by the President.)

On February 20th Mrs. B— called at my house, accompanied by her mother, desiring my opinion as to the safety of her walking a distance of two miles to her mother's residence for the purpose of "lying-in." On the morning of this day Mrs. B— had fallen from the top to the bottom of the stairs, immediately after which she began to lose blood from the vagina, but without experiencing pain. I directed her to return to her own home, which was within two minutes' walk of my house, and to keep quiet; adding that if the flooding grew worse or pain came on she should send for me. I did not prescribe anything for her, neither did I make any examination.

On the 4th of March, at 2.30 a.m., I was requested to see Mrs. B—, who, it was said, was in labour, and I went immediately. I found the pains to be frequent and severe, and the uterus dilated to the size of a sixpence. After waiting about an hour I again examined, and the dilatation had increased to the size of a shilling. It was evident from her statement that the membranes must have been ruptured at the time of the fall twelve days previously, as she had had slight bearing-down pains ever since, and had lost a good deal of water during the period. Nothing, however, was now being lost except blood, which flowed copiously. I could not at this juncture make out correctly the presenting part of the child, it being beyond my reach; but during a sharp pain I detected what I thought was a portion of the funis impinging upon the tip of my index finger. As the case proceeded, however, I discovered this to be a fallacy,

for several coils blocked up the os uteri, which I had no doubt were fœtal intestines; and after a careful examination I could detect the presentation to be abdominal and very high up. The case being singular and one which involved turning, I sent for my excellent friend and neighbour Dr. Anderson to be present, and he, after satisfying himself on the nature of the case, administered chloroform. I then proceeded to turn, using, as I generally do, my left hand, but in getting quietly within the uterus my progress was arrested by a cul de sac, bounded above by what I believed to be a portion of the placenta, on the one side by the abdomen of the child, and on the other by the uterus. I then introduced my right hand and soon got a leg in possession (which I saw was deformed), but failed to find the other, while the nates at this moment somewhat entangled me. I proceeded to deliver, however, as usual, assuring my friend that no other leg could be found, and this, on the birth of the child, turned out to be correct. The delivery was effected completely with the placenta and the infant attached to each other, and destitute of any funis. From the appearance of the child and its intestines I gather that it had died soon after the accident already referred to. By the kindness of the patient I sent the infant to my friend Dr. Hicks, together with this imperfect sketch of the case.

REMARKS ON TABLES OF MORTALITY AFTER OBSTETRIC OPERATIONS.

By J. Braxton Hicks, M.D. Lond., F.R.S.,
OBSTETRIC PHYSICIAN AND LECTURER ON OBSTETRIC MEDICINE AT GUY'S HOSPITAL; PHYSICIAN TO THE ROYAL MATERNITY CHARITY, ETC. ETC.,

AND

J. J. Phillips, M.D. Lond.,
ASSISTANT OBSTETRIC PHYSICIAN TO GUY'S HOSPITAL; ASSISTANT PHYSICIAN TO THE HOSPITAL FOR SICK CHILDREN; AND PHYSICIAN TO THE ROYAL MATERNITY CHARITY.

In order that statistics may be of any value in medicine it will be readily admitted by all that it is highly important that the data upon which they are founded are reliable. Of course, strictly speaking, they should be absolutely correct; for instance, in cases where the result is fatal, the diagnosis should always be corroborated by a post-mortem examination, by which means the data would be sure, and the statistics derived from them of the fullest value.

There are, indeed, some cases where the diagnosis in experienced hands is so certain that such verification, if not attainable, is scarcely required; and such data may fairly be made use of in the absence of demonstrative certainty. Yet the statistics derived from them, however valuable to a certain extent, must not be used in such a way as to be considered proof against the truth of another opinion, resting on a more certain but less broad basis.

The statistics of mortality, as drawn out by the Registrar-General from medical certificates, form an illustration of the imperfection of this source of information.

It has been argued that these effects are lessened by taking a large number, whereby the one error counterbalances the other, and that the truth is thus approximately reached. If this were the general tendency, these results would be of some value; but it is probable that, sometimes at least, the

errors would tend all in one direction, thus swelling the total error to a proportionate extent.

This remark applies to statistics established upon a broad base which will include the class of cases under all circumstances whatever. It is clear that here the wider the sweep extends the more must complications be mixed, so that the results become of less value as they recede from the instances of the simplest kind. This point will be admitted by all, but in practice it is often overlooked; and frequently the whole mass of instances of every degree of complication is taken as if each of them were a simple, strict example of the class under consideration. Dr. Barnes has well illustrated the imperfection of statistical data in an oration delivered before the Hunterian Society in 1863.

The subject is doubtless very important in every respect, but especially so in connection with medicine, and in particular when brought to bear as a guide to practice.

There are two palpable causes which may vitiate statistics —incorrect data, whether from unreliable sources or from imperfect grouping, and incorrect mode of application. These are the besetting sins of medical statistics. For instance, if we desire to find the advantage of a particular plan of treatment in placenta prævia, and to this end group together all the cases of the kind so treated, and take the gross mortality to mother and infant as the means of comparison, a moment's consideration will show that we are really very far from a perfect knowledge of the value of that line of treatment. For we have not ascertained how many were dying from blood loss, or nearly so, nor for how many hours the practitioner was obliged to wait till the dilatation of the os uteri would allow him to put his plan into practice. Nor have we, again, discovered how many died from subsequent hæmorrhage or from retained placenta and its results, or from obstructed labour with craniotomy; and yet each complication may have seriously affected the result as to the mother. Further, also, with regard to the child, we have not ascertained how many children had died before interference from blood loss, how many had died from impeded birth, or from accidental complications such as a prolapsed funis.

When we have sifted out all these complications and have reduced the number of instances to their simplest conditions, we shall then have a satisfactory basis to go upon; deriving afterwards, as regards practice, some little assistance from our careful consideration of the exact value of the treatment in the complicated cases. It may be said how few simple cases we have left to us after subjecting them to this process! Very probably; it is, however, better to have a few such than a large number incorrect.

Again, we must be sure that the cases, in the treatment of which we are invoking statistics to aid us, are really comparable at all.

If we attribute to the treatment all that occurs subsequent to it, and if, when a number of plans have been tried in succession, we place the result against the last, it will be readily conceded that we shall fall into very erroneous conclusions when we endeavour to compare results of conditions and of their treatment in this manner; and yet many of the tables frequently quoted have been compiled after this fashion.

The remarks just made have been called forth by analysing the statistics of some authors on midwifery subjects; and in the present paper it is intended to draw attention to the imperfect mode in which these have been drawn up, and to the delusive conclusions to which they consequently lead us. And here it is necessary to remark that, as we must analyse the tables which have been published on the subject, and the uses which have been made of them, we do so simply to elicit the truth, and not out of any antagonism to the authors, whose works are too well known to need commendation. It will, of course, be necessary to go back to the works of those authors which furnished the materials from which the tables were taken. To the correctness of their reports no dispute will, of course, be raised, as we necessarily assume that they are reliable, and, indeed, the names of the authors are a sufficient guarantee for that opinion. It will probably be considered sufficient if, without analysing every author, we use some well-known instances whose correctness and

honest reporting are evident on the face of them. We have therefore thought it best to limit ourselves to an analysis of the tables published in Dr. Churchill's work, and to select for examination the cases collected from the works of the following well-known authors—Smellie, Ramsbotham, Collins, Lee, McClintock and Hardy, and Sinclair and Johnson. On referring to Churchill's tables it will be seen that the above authors furnish a large proportion of the cases which are quoted by him.

Let us now proceed to examine the fatal cases in which delivery was effected by craniotomy.

Craniotomy.

Dr. Smellie's cases of craniotomy, quoted by Dr. Churchill, are forty-four in number, and of these four were fatal.

On referring to the original history we find the following account of the fatal cases:

The first was a case of small pelvis, and the woman had been in labour many days. She was in a very exhausted condition, and the pains were nearly gone. The parts were black and livid; child dead; delivery imperative. The patient grew weaker; became delirious; and died next morning. Probably from the severe abdominal pain peritonitis existed before delivery. (Vol. iii, p. 17.)

In the second case the patient had been a long time in labour. The forceps had failed to deliver her. When craniotomy was performed she was in a dying state, and survived only half an hour. (Vol. iii, p. 45.)

The third fatal case was that of a woman delivered twelve months previously by craniotomy. This time she had been in labour two days and a half before the head was perforated. Child had been dead some time. There was contraction of the os uteri and of the vagina, which had to be overcome by the knife. A vesico-vaginal fistula existed since last confinement. Died twenty-four hours after operation. (Vol. iii, p. 61.)

In the remaining fatal case, also, craniotomy had been performed in a previous labour. Delivery was accomplished with great

difficulty. Death attributed to violence used in extracting head. Time of death not stated. (Vol. iii, p. 241.)

The cases fatal after craniotomy, recorded by Dr. Ramsbotham, appear to be seven in number, and are as follows:

Case 1.—In labour over three days. Head well down in pelvis at least twenty-four hours. Rigors, vomiting of dark-coloured fluid, and offensive discharges from vagina before operation. Recto-vaginal and vesico-vaginal fistulæ, and death in a month. The body was removed from hospital at night, and so the extent of the sloughing was not ascertained, which, in Dr. Ramsbotham's words, "was produced by the long-continued pressure of the head upon the parts." ('Pract. Observ.,' page 334.)

Case 2.—Protracted labour caused by hydrocephalic fœtus. Child easily expelled after perforation. "Sloughing of the bladder took place under the irritation produced, and she died within the month." (Page 354.)

Case 3.—Rupture of uterus before interference. Forceps failed to deliver. Head was then perforated and child extracted with difficulty. (Page 395.)

Case 4.—Deformed pelvis. Head was perforated, but extraction postponed to wait dilatation of os uteri. Two hours after perforation rupture of the uterus occurred. No attempt at extraction had been made. (Page 400.)

Case 5.—In labour from Saturday morning till Monday morning, when rupture of the vagina took place. Head was then perforated. Extraction difficult. (Page 411.)

Case 6.—Probable rupture of vagina, diagnosed by the symptoms previous to operation, and detected by the hand in extracting placenta. Death in five days. (Page 415.)

Case 7.—Hand presentation. Repeated unsuccessful attempts to turn child. Amputation of presenting arm. The other arm then appeared in vagina and was also removed. Several hours afterwards the head was presenting at the brim and it was perforated. Patient died in a convulsion soon after delivery. (Not Dr. Ramsbotham's case.) (Part II, p. 96.)

In reading Dr. Ramsbotham's various cases of craniotomy

we find that the head was perforated for diverse reasons, such as powerless labour, impaction of the head during a longer or shorter time, obstruction in the vagina and the pelvis, ruptured uterus, ruptured vagina, accidental hæmorrhage, convulsions, impaction in breech presentation, and retention of the head after decapitation.

Many of the conditions out of which it was endeavoured to rescue the patient by means of craniotomy were severe enough in themselves to be fatal, or at least seriously to endanger her life. The nearest conclusion at which we seem to arrive by comparison of these cases is rather which accident to labour is the most dangerous unless alleviated by the delivery of the child.

It will be observed that out of the seven fatal cases, rupture of the uterus occurred in two and rupture of the vagina in two, and that in each of these cases the fatal accident had happened previous to any attempt at delivery. In two other cases death resulted from sloughing, caused, as is evident from the history and the already decomposing fœtus, by the long continuance of unassisted labour. The remaining fatal case must be considered as altogether exceptional.

In placing these deaths against craniotomy we substitute the *post hoc* for the *propter hoc*, and our ideas of the dangers of the operation are far distant from the truth.

Proceeding to Dr. Collins' cases we find that nothing can more completely show the fallacy of mixing up all the cases of craniotomy than these. Dr. Collins particularly guards against this use of them, and even where he gives the table, he takes care to quote the cases themselves, with this remark: —"It was my intention to have given the entire number in detail; however, I found the similarity so great that, to avoid being tedious, I thought it better to omit some. To these cases, in connection with what has been here stated, I request *particular attention*, as from a careful perusal the reader will be enabled to draw conclusions far more satisfactory to himself than any I could place before him."

"In 79 of the 16,654 (deliveries) delivery was effected by

lessening the head (on account of extreme difficulty in the labour, or when the child was dead and interference desirable, owing to the state of the mother), when, after the most patient trial, the impracticability of the labour being terminated in safety by any other means was clearly proved to us. In 6 of the 79, delivery with the forceps was attempted, but no force consistent with safety could in this way accomplish it."

Dr. Collins then proceeds to give an account of the 15 fatal cases. The analysis is as follows:

Case 1.—A. B—. Great exhaustion when admitted from disease and poverty. Child in a very putrid state. Vaginal walls much thickened from former ulcers. Perforation, head removed cautiously. Died shortly after delivery. Post-mortem examination showed extensive disease of cervix uteri and vagina. ('Practical Treatise,' page 24.)

Case 2.—B. A—. Idiot. Poor and starved in appearance, and very feeble. Uterine action trifling. Head fixed in pelvis eighteen hours. Child putrid. Urine with difficulty drawn off; it was thick, fœtid, and bloody. Perforation of head, and delivery by crotchet. Death on the fourth day. Post-mortem examination showed neck of bladder and vagina to be completely eroded and gangrenous, the former organ at its upper part adhering to the uterus. (Page 24.)

Case 3.—B. S—. Had been three days in labour, and was much exhausted. Pulse 140. Os uteri still small; pains trifling. Opium was given, and after a refreshing sleep the os uteri dilated as her strength was failing. The child was putrid. Perforation and delivery by crotchet. Death on the second day. (Page 25.)

Case 4.—Sixty-four hours in labour. No progress during the preceding twenty-four hours. Child dead and putrid. Pressure on the urethra was very severe. Delivery by perforation and the crotchet. Died on the third day. Examination after death revealed stricture of colon just above sigmoid flexure; effusion into thorax, and enlargement of heart. Uterus healthy and well contracted. Pelvis small. (Page 464.)

Case 5.—Primipara. Os uteri dilated slowly during five days. Pains very distressing, not expulsive. At the end of five days the pains had abated, but suddenly she was seized with dyspnœa, with exceedingly feeble pulse and cold extremities. The head was

immediately lessened and almost every cranial bone was brought away. Body required much force for its removal. Child large and decomposing, and its abdomen distended with air. Patient was by this time lifeless. Post-mortem examination showed congestiōn of intestines, with a pint of effusion into the peritoneal cavity, and coagulable lymph in parts. Uterus healthy, relaxed. (Case 210.)

Case 6.—Primipara. In labour four days, and greatly exhausted. Pulse 120. Tongue foul. Child's head low down and firmly fixed. Uterine action entirely ceased. Delivery by perforation and the crotchet. During and after extraction an enormous quantity of matter resembling fæces was discharged from uterus. Sloughing of vagina and adjacent soft parts next day. Death on fourth day after admission. (No. 257.)

Case 7.—Three days in labour. Fœtal head low and firmly fixed. Urine retained thirty hours. Pulse 140. Perforation and crotchet. Shoulder difficult to bring down, owing to distension of abdomen from putrefaction. Died on the fourth day. (No. 303.)

Case 8.—Primipara. Five days in labour. Child dead, its head fixed in pelvis. Patient much exhausted. Pulse 110. Tongue parched. Sank on the ninth day after perforation. (No. 504.)

Case 9.—Thirty-three hours in labour. Child's head had made no progress for twenty-four hours. Woman being nearly exhausted the child's head was lessened and delivered by the crotchet. On the fourth day acute peritonitis set in, of which she died in forty-eight hours. Besides this the vagina was sloughing. (No. 665.)

Case 10.—Forty hours in labour. Child's face to pubes. No progress for twelve hours. No fœtal heart sounds being longer audible, delivery was effected by perforation and the crotchet. Placenta removed from uterus on account of hæmorrhage. Pelvis very defective. Death on ninth day. On examination a large slough was found opening the vagina into the rectum; at one point it looked as if a laceration had taken place. (No. 79, p. 135.)

Case 11.—Admitted in high fever. Pulse 120. Tongue loaded. Teeth covered with sordes. Pains occasionally strong, but no progress. Bones of head overlapping; scalp puffy. After waiting twenty-four hours head was delivered by the crotchet. Died in three weeks. Ulceration and sloughing of external parts and an abscess of the right ovary were found. (745.)

Case 12.—Primipara. Fifty-six hours in labour. No progress for twenty-four hours. Head lessened and delivered by crotchet. Acute inflammation of peritoneum, uterus and ovaries succeeded, of which she died on the eighth day. (817.)

Case 13.—Primipara. Forty-eight hours in labour. Child dead; delivered by crotchet. Acute peritonitis on sixth day, proving fatal in forty-eight hours, apparently caused by sphacelus of a portion of colon about the size of a crown piece. Uterus healthy. (No. 873.)

Case 14.—Primipara. In feeble labour seventy-two hours. As child was dead and woman's pulse became hurried, the head was lessened and cautiously brought down by crotchet. Acute peritonitis soon after labour. Death on sixth day. A small opening was found in lip of uterus, and a similar one in vagina, half an inch below mouth of womb. Pelvis measured three inches and a half in the antero-posterior, four inches and a half in the transverse, diameter. (No. 1038.)

Case 15.—Primipara. Fifty-nine hours in labour. Pulse 120 to 130. External parts œdematous. Child's head pressed firmly on ischial spines. Fœtal pulse having ceased, delivery was effected by perforation and crotchet. Post-partum hæmorrhage. Died on the ninth day. Extensive sloughing of vagina was found, with an opening into rectum. No peritonitis, no metritis. (No. 1095.)

When we analyse these fifteen cases of death after the employment of craniotomy, we are at a loss to find more than two cases whose fatal termination can with any show of probability be traced to the operation. In most of the cases it will be admitted by all that death arose from the *too long* postponement of craniotomy. For instance, in six cases it is specially mentioned that the child was putrid before admission, and in two others at least it may be inferred that it was so. In these cases there can be no hesitation in saying that delivery would have been attempted before this stage had they come under Dr. Collins' care earlier; and, we can hardly doubt, with very different results. Again, one patient was admitted already labouring under typhus fever; one patient was suffering from peritonitis before or at the time of labour; one died from puerperal fever, at that time rife in the hospital; while in the majority we find that labour was permitted to go

on much too long. Dr. Collins says, "of the three women who died of the effects of labour previous to admission, one was three days in labour before she came in, the second four, and the third five days." It will also be observed that the duration of labour in five other cases was seventy-two, sixty-four, fifty-nine, fifty-six, and forty-eight hours. Some showed the existence of prior disease. In two there was severe post-partum hæmorrhage, requiring the introduction of the hand. In at least four of the cases sloughing of the vagina can be distinctly traced to the protracted pressure of the head, while in others it was the probable cause of the sloughing which was found.

Advancing to Dr. Robert Lee's craniotomy cases, we find that he reports sixty-seven cases in which craniotomy alone was performed, and out of these eleven were fatal. We find, again, nineteen cases in which the forceps also had been used; three of these terminated fatally, one dying from convulsions.

Excluding for the present the latter class, we may safely assume that it will be agreed respecting the former group that, in every case, had delivery been sooner accomplished, recovery might have been fairly expected.

Analysis of the eleven fatal cases in which craniotomy alone was performed.

Case 1 (No. 62).—Labour of seventy-two hours' duration. Pulse rapid. Tongue loaded. Delirium and exhaustion. Great inflammation and sloughing. Difficult extraction.

Case 2 (No. 64).—Vagina forcibly dilated by midwife's hand. Gangrene of vagina and external parts. Labia swollen to size of child's head.

Case 3 (No. 73).—Uterus ruptured spontaneously after twelve or fifteen hours' labour. Child's head extracted without difficulty. Death in twenty-four hours. Large rent found in uterus.

Case 4 (No. 93).—Impaction of child's head. Bladder enormously distended. Catheter would not pass. Died of cystitis.

Case 5 (No. 107).—Over four days in labour. Discharges offensive. Child dead, its head firmly impacted. Great difficulty in extraction. Retained placenta. Died in a few days from uterine inflammation. Dr. Lee says, "she was left, I think, too long in labour."

Case 6 (No. 111).—Over four days in labour. Pelvis contracted. Left for twelve hours, to see effects of natural efforts. At the end of that time she became delirious; the pulse became rapid and feeble. Died twelve hours after delivery. Dr. Lee adds this note, "The result would probably have been very different had we proceeded to deliver twenty-four hours sooner, and I can never think of it without regret."

Case 7 (No. 116).—Single woman. Large amount of liquor amnii. Hydrocephalic head. Profuse post-partum hæmorrhage. Death in three days from metritis.

Case 8 (No. 117).—Sixty hours in labour. Hydrocephalic fœtus. Repeated doses of secale had been given in ignorance of this fact. Extraction easy. Death in a few hours, said to result from inflammation of uterus.

Case 9 (No. 118).—Long labour. Hydrocephalic fœtus. Head punctured and child easily extracted. Shivering and great exhaustion followed. Phlebitis. Death on twelfth day. Lobular gangrene of lung.

Case 10 (No. 119).—Ruptured uterus after four days' labour pains. Fœtus hydrocephalic. Perforation and easy extraction. Death in forty-eight hours.

Case 11 (No. 120).—Ruptured uterus after about ten hours' labour. Child escaped from uterus; drawn back through rent. Head hydrocephalic. Easy delivery after perforation. Survived thirteen days.

In reference to the above cases it is only necessary to quote the following from Dr. Lee's remarks:—

"Had the cause of difficulty been ascertained sufficiently early in these five fatal cases of congenital hydrocephalus, and the operation of craniotomy been performed, it is impossible to doubt that some, if not all of them would have ended favorably."

On page 60 we find this note :—

"In those who recovered with vesico-vaginal fistulæ or contractions of the vagina from cicatrices, the unfortunate occurrences arose from craniotomy being too long delayed. After examining all the details of these cases I feel satisfied that in none was the interference premature, and that in several, had the delivery been sooner effected, the fatal consequences which ensued would have been wholly prevented."

McClintock and Hardy's craniotomy cases, as recorded in their 'Practical Obstetrics,' are fifty-two in number. Of these eight proved fatal.

Case 1 (No. 4, p. 121).—Primipara; thirty-six hours in labour. Head high up. Bad symptoms arising, head was perforated. Metritis and phlebitis. Death on sixth day.

Case 2 (No. 137).—Primipara, æt. 28, large and strong woman. Two days in labour; pains strong. Fœtal heart having ceased to beat, the mother's pulse being 120, and her tongue brown, the child's head was perforated. Acute metritis and peritonitis followed, with their usual symptoms, and she died in three days.

Case 3 (No. 170).—Long lingering labour; three days before os uteri became fully expanded. Head still high up. Pulse 120. Vaginal discharges brown and fœtid. Pains feeble. Perforation on second day; metritis and diarrhœa, proving fatal on sixth day. Post-mortem evidences of pyæmia.

Case 4 (No. 248).—Prostitute. Membranes ruptured on admission. Remained two days in labour; child being putrid, head was perforated. Placenta removed by hand two hours afterwards. Rigor in eleven hours and a half. Metritis (not very acute) and arthritic pyæmia. Death on the eighth day.

Case 5.—Early rupture of membranes. Rigid os uteri. Head high up for a long time. Pains feeble, but ergot revived them. Considerable extractive force had to be used after perforation. Acute peritonitis came on during the second day, of which she died two days later.

Case 6 (No. 218).—Primipara. Long and tedious stages, and

extending over three days. Pains weak, ergot given. Discharge fœtid. Placenta removed by hand. Pain in abdomen next day; this disappeared. Rigor on third day; uterus tender. Gradually sank under an attack of metritis with some toxæmic pneumonia.

Case 7 (No. 251).—Primipara; scrofulous; admitted on third day of labour; not much progress. Fœtid discharges and other symptoms indicating death of child, its head was perforated and extracted with some force. The patient died of acute peritonitis and phlegmasia dolens in six weeks' time.

Case 8 (No. 186).—Bands of cicatrices in vagina, with recto-vaginal fistula. Many difficult labours, and craniotomy performed previously. Recovered from these with difficulty. Now at full time. Head of fœtus perforated, and removed with extreme difficulty. A further laceration took place at outlet during delivery of head. Patient died on the eighth day from peritonitis, metritis, and phlebitis.

Johnson and Sinclair in their 'Practical Midwifery' give the particulars of 130 cases of craniotomy, with a fatal result to the mother in 26 cases.

Case 1.—Particulars of case not found. It is, however, stated that the patient died of apoplexy, after having been in labour forty hours. (Pp. 225, 269.)

Case 2.—Primipara; fifty hours in labour. Child dead, its head highly ossified and impacted. Perforation. She had been bled, leeched and blistered for acute bronchitis. On the third day sloughing set in, and she died on the twentieth day quite worn out by the suppuration. (Page 252.)

Case 3.—In labour seventy-one hours. During the greater part of this time the pains had been strong, but they suddenly ceased "like the clap of your hand," when vomiting set in. Admitted with her extremities cold, her pulse scarcely perceptible, acute pain in epigastrium, tenderness over the entire abdomen, &c. Stimulants were given, and child's head was perforated. Died the evening of the day on which she was delivered. Rupture of uterus and vagina found on post-mortem examination. (Page 432.)

Case 4.—Primipara, æt. 19. Thirteen convulsions before delivery, and eight subsequently. Treated by bleeding, enemata, and chloro-

form. No return of consciousness. Died comatose on the third day. Urine albuminous. (Page 397.)

Case 5.—Primipara, æt. 36, with jaundiced eyes and œdema of lower extremities. Violent convulsions at seventh month of pregnancy. Child's head perforated. She was treated by bleeding, tartar emetic, &c. Partial return of consciousness on following day. Peritoneal symptoms with tympanitis succeeded. On the fifth day the abdomen was soft, the uterus of normal size and consistence. Unconsciousness recurred on the evening of the fourth day, and she died comatose on the sixth day. Urine highly albuminous. (P. 398.)

Case 6.—Hæmorrhage of a severe kind occurred in the second stage of labour. Just prior to this the pains ceased, and vomiting took place; head then lessened. Uterus remained large after delivery, and oozing continually. Died on the fifth day. Rupture of vagina from its connection with the uterus in front. Edge of brim anteriorly very sharp. (Page 433.)

Case 7.—Primipara. Perforation and extraction by crotchet after version for arm presentation. Immediately after delivery her pulse became suddenly imperceptible, but she rallied. Rigors next day. Dysenteric discharges until twelfth day. Death on the thirteenth. Great congestion, with sloughing in parts of intestinal mucous membrane. Little pus in broad ligament. Uterus and os uteri healthy. (Pp. 120, 123.)

Case 8.—Primipara; thirty-two hours in labour. Child dead. Olive-coloured fœtid discharges. Quick pulse. Fœtal head then lessened. She died from peritonitis on the fifth day. Tissue of uterus healthy. Sero-purulent fluid in abdomen, with glueing of intestines and omentum. (Page 257.)

Case 9.—Whole pelvic cavity except small space on right side occupied by large unyielding tumour. Perforation. After a little delay arm came down. Evisceration. Extreme difficulty in extraction. Ruptured uterus. Death two hours after delivery. Dr. Shekleton did not consider this a suitable case for perforation, but for the performance of the Cæsarian section. He, however, yielded to the wishes of his colleagues. (Page 434.)

Case 10.—In labour twenty-four hours. Vagina obstructed an inch from vulva by a firm septum of strong fibrous bands. No

opening whatever could be detected. Silver catheter teazed through septum, and opening dilated with dressing forceps, and subsequently enlarged with a bistoury. Uterine action continued for three hours more, but then became feeble. Pulse 124. Perforation and extraction under chloroform in an hour. Death on third day. Transverse rupture of vagina from uterus. Sphacelus of structures around the divided septum.

Case 11.—Primipara, æt. 35. Forty hours in labour. Admitted with feeble intermittent pulse and vomiting greenish fluid. Soon after delivery peritonitic symptoms supervened, and she died on the third day. Extensive peritonitis was found post-mortem. (P. 259.)

Case 12.—Ninety-six hours in labour. Pains suddenly ceased on the second day of her labour. Two quarts of urine were drawn off. Pulse 120. Grumous vomiting. Delivered by perforation. Death on second day. Laceration of vagina anteriorly four inches long. A prominent ridge existed on the internal surface of anterior wall of pelvis. Peritoneum putrid, containing a large quantity of grumous fluid. (Page 442.)

Case 13.—In a state of deep collapse on admission from accidental hæmorrhage. Rupture of membranes. Half an hour without recurrence of hæmorrhage; it was then renewed with great violence. Os uteri dilated with fingers; child's head perforated and delivery completed as soon as possible. Draining of blood continued, and she died an hour and a half after delivery. (Page 364.)

Case 14.—Before perforation patient had urgent pain referred to region of stomach. Green vomiting had set in. Pulse 124. No advance of head for six hours. Died on second day. Rupture of uterus at junction of body with cervix was found. (Page 443.)

Case 15.—Knocked down by a car two days before admission. Increasing abdominal pain supervened. Great tenderness. Pains came on next day, but they were trifling. Vomiting set in. Pulse weak; respiration hurried. Child's head then lessened. Died in two hours. Autopsy revealed effused blood and coagulable lymph in peritoneum, and an extensive laceration of uterus. (Page 448.)

Case 16.—Primipara; thirty-eight hours in labour. Small conjugate diameter. Placenta adherent and extracted with hand. Peritonitis and death on third day. (Pp. 242, 472.)

Case 17.—Two previous labours terminated with crotchet. Head impacted. Labour of thirty hours' duration. Peritonitis on second day, and death on ninth. Uterus and appendages healthy. (Page 243.)

Case 18.—Primipara, æt. 34. Duration of labour forty-two hours. Patient debilitated from excesses. Before perforation she was worn out and feverish; the discharges were fœtid. Suffered from chronic bronchitis. Urgent dyspnœa next day and aggravation of all the chest symptoms. Died on fourth day. (Page 244.)

Case 19.—Craniotomy in two former labours. Contraction of upper part of vagina by bands. Head could not descend beyond the cicatrices, notwithstanding powerful pains. Head lessened. *Autopsy.* Glueing of parts in left iliac fossa, forming a cyst filled with fœtid pus. This communicated with the vagina by an opening, the result of the separation of a slough. (Page 267.)

Case 20.—Antero-posterior diameter of pelvis barely three inches. Duration of labour sixty hours. Sloughing of vagina occurred on the second day, and she died with peritonitis on the fourth. (P. 245.)

Case 21.—Rupture of vagina and descent of intestines in front of head. Crotchet in her only previous labour. History incomplete. (Page 447.)

Case 22.—Primipara, æt. 32; in labour forty-seven hours. Obliquely distorted pelvis. Perforation. Extraction delayed, notwithstanding strong uterine action for three hours. Delivery in three hours more with great difficulty. Sloughing of vagina occurred on the second day. Urine began to trickle away on the third day, and she died from peritonitis on the fourth day. (Page 247.)

Case 23.—Primipara, æt. 36; in labour thirty-three hours. Labour delayed from disproportion. Ergot was given. The forceps failed to deliver. After perforation convalescence proceeded favorably for three days. Rigors and a quick pulse then occurred, but there was no abdominal tenderness on pressure. Constant diarrhœa, and death on the seventeenth day. No autopsy. (Page 263.)

Case 24.—In the second stage of labour complained of "something having given way;" but the pupil attending her failed to report this immediately. In less than an hour she was found in a state of collapse. The foot of the child could be felt at the ensiform carti-

lage. Perforation of child's head. Death of mother next morning. (Page 446.)

Case 25.—Prolapse of funis. Liquor amnii escaped forty-eight hours before admission, and the funis having ceased to pulsate, the head was perforated. She died of erysipelas, which lapsed into sloughing of the labia. (Page 350.)

Case 26.—In a state of complete exhaustion on admission, having been twenty-eight hours in labour at home. Pulse 135. A large thrombus of right labium. Pyrexia set in a few hours after delivery, and the thrombus sloughed on the third day. Erysipelas occurred during the separation of the slough, and she died on the fourteenth day. (Page 251.)

Cause of Death.

Rupture of uterus or vagina before perforation (*in all except one history conclusive*)	7
Rupture of uterus in case of pelvic tumour—case suitable for Cæsarian section (Shekleton) . . .	1
Rupture of vagina from existence of previous bands .	1
Sloughing of vagina around old adhesive bands . .	1
Apoplexy 1; convulsions 2; accidental hæmorrhage 1 .	4
Erysipelas 2; aggravation of chronic chest disease 1 .	3
Sloughing and suppuration . . . . . / Duration of labour, 50, 60, and 47 hours respectively	3
Peritonitis.—Duration of labour 32, 40, 30, and 38 hours; in two the uterus is stated to have been healthy, in a third there was peritonitis before admission (?), the fourth was complicated with adherent placenta . .	4
Dysentery 1 . . . . . / Diarrhœa, no local tenderness; no post-mortem examination 1	2
	26

As the mortality in Dr. Granville's cases of craniotomy is stated to be 100 per cent., it may be well to observe that some error has crept in here, for on referring to Dr. Gran-

ville's Report of the Western Dispensary (pp. 25 and 103) we find three cases of craniotomy recorded, but each of the three terminated favorably. Three patients died who required no instrumental assistance, and one who was delivered by forceps. The three cases of craniotomy were as follows:

"M. G—, craniotomy for malformation of pelvis. At the end of twenty days she was perfectly recovered.

E. M—, craniotomy for impaction of head.

A. H—, craniotomy on account of malformed pelvis. "They both did remarkably well."

In speaking of the disadvantages of dispensary patients, Dr. Granville says "We have it not in our power, as is the case in private practice, to interfere opportunely with the labour in order to render that safe which when neglected becomes dangerous. In the next place, a great many of the patients are in the utmost state of wretchedness and want, so as not to be able to meet the exigencies of their recovery from lying-in, besides being often confined in small, cold, and damp rooms, either in cellars or garrets."

When we thus look carefully into the original cases whence these statistics are derived, we are struck with the really few instances in which the operation can be made accountable for the fatal result. When we seek to discover the relative danger of all midwifery operations, it cannot be too clearly borne in mind that they are employed purposely to counteract the effects of some one abnormal condition, or, perhaps, more than one occurring simultaneously or consecutively. Hence, unless it clearly appears that these conditions are perfectly unable to have produced death, we cannot place the fatal result as against the operation. Of course it is possible that cases occur where the one would not be fatal without the other, and doubtless this ought to be taken into account when estimating the probable results of any case. For instance, laceration of the vagina might happen during the extraction of the head; at the same time the fœtus might be putrid, so that absorption of poisonous

matter, inducing toxæmia, would enormously add to the risk of an accident of possibly but little vital importance in itself. But on reviewing the reports of these operations, the fatal result in the majority can be clearly traced to the disease for the alleviation of which the operation was undertaken, and not to the operation itself in any way. For instance, if craniotomy had been undertaken for convulsions and we found them continue after delivery, the patient gradually becoming comatose and dying in that state, we have a just right to infer, if there had been no particular difficulty in the operation, that the condition producing the convulsions was the real cause of death. Yet cases of this kind have been introduced into statistical reports and quoted as the results of craniotomy.

Setting aside, however, the accidental complications of craniotomy, the danger may be said to increase in proportion as the conjugate or the working diameter of the pelvis diminishes. The danger increases the more rapidly we approach the smallest size through which it is *possible* to bring a mutilated child, till all at once it ceases on account of the complete impossibility of the operation. Hence, these cases of extreme reduction should be placed in one division, while in a separate one should be placed those in which the perforation was adopted to reduce the delivery to its simplest condition, as in the case of a putrid child low down with only the slightest reduction of the pelvic diameters at the outlet.

Again, the danger of all obstetric operations is in direct ratio to the want of skill or care in the use of instruments, or the want of judgment as to the time of their employment; and therefore it is not just to mix together those cases in which skill has been lamentably wanting, and those in which the judgment as to time and the skill in the performance were complete. Yet these are united together in statistical tables. How can we quote such cases as those where labour had been in progress four or five days, and the women nearly dying before they came under the physician's care (dying because an operation was *not* performed), with those entirely

under the physician's care, and in which the operation had been performed at the earliest justifiable moment.

Is the skilful obstetrician to have his hands tied down by statistics such as these, and his practice warped by these supposed true results of operations?

Other authors, quoting from Dr. Churchill, have also included indiscriminately in the general result all these fatal cases which differ so much in their detail. Thus Dr. Tyler Smith, in his 'Manual of Obstetrics,' says:— "Craniotomy, though a comparatively easy operation, is far more fatal to the mother than the forceps or turning. In this country 1 in every $20\frac{3}{4}$ amongst the mothers is lost by the use of the forceps. The gross mortality to the mother from craniotomy is 1 in $5\frac{1}{3}$." As these proportions agree with Dr. Churchill it is probable that they are derived from the same sources.

The following extract from Dr. Churchill's work must not be omitted, p. 372: "At first sight one would expect the mortality amongst the mothers to be less after the use of the crotchet than the forceps, although the result of these investigations shows the reverse to be the case, and Dr. McClintock, in a very interesting paper, brought forward evidence to show this to be really the case. The only explanation I can give is founded on the natural unwillingness of every humane practitioner to destroy life, the consequence of which feeling is the delay of the operation so long as there is a hope of evading it. This delay, however, is unfavorable to the mother, and when, at length, the operation is performed, although it may have been less severe than delivery by the forceps, yet her condition has rendered her much more susceptible of injury from it. If we separate the cases in the table which occurred in private or consultation practice we find the mortality very much less. In consultation I have had recourse to craniotomy twenty times and all the patients recovered. In four other cases I was called in when the mother was passed all hope; these I therefore omit." Dr. Churchill has doubtless here done rightly, but in drawing out the tables above referred to he has inadvertently taken

Smellie's and Collins's cases, and others, without any distinction whatever; yet from his own he has weeded those which had been neglected past hope before the operation.

What does Dr. Collins himself say (page 487): "It is a remarkable fact that of the examples here given of repeated delivery by the crotchet, but one of the women died; thus satisfactorily proving, that where death succeeds this operation the fatal result is not dependent on the mode of delivery, but upon the circumstances demanding such interference."

Dr. Tyler Smith, however, says ("On the Abolition of Craniotomy," 'Obstet. Trans.,' vol. i, page 21):—"The mortality to the mothers from craniotomy is about 1 in 5 cases in British practice, which would give in England and Wales a maternal mortality from this cause of rather more than 350 per annum. Thus the deaths of upwards of 2000 women and children annually in this country may fairly be referred to the performance of craniotomy. These figures convey a just idea of the importance of the subject under consideration." Thus, it is evident that he accepts the mode of the collection of statistics as an accurate guide to practice.

Dr. Murphy, also, in his "Lectures on Parturition," makes use of the same tables as Churchill. With regard to forceps cases, however, he makes some remarks upon the necessity of caution to arrive at a just conclusion from statistics.

Let us now consider the cases of death which have been attributed to the use of the forceps; and this inquiry is the more important when it is observed how many authors have made use of the tables of mortality of craniotomy and forceps to institute a comparison of the relative dangers of the two operations. But we may ask, are they at all comparable? How can two operations, one the sequel to the other in a large number of cases, be capable of being placed side by side? The forceps is not employed in such reductions of the pelvis as is craniotomy. In educated hands the forceps is used in a different and milder class of case, craniotomy in a more severe

one; and although these classes occasionally intermix, it is not by election, but by necessity, and then only so far that craniotomy is the sequel to the forceps in cases where the latter has failed. It would be quite correct to compare the results of craniotomy with those of the induction of premature labour in cases of pelvic distortion, because either plan may be chosen; but it would be incorrect to compare, at least in most cases, the effects of the forceps with those of premature induction of labour, because they would be but rarely employed in the same class of case.

These remarks, however, do not apply particularly to the subject of this paper, which is intended to point out the importance it is in midwifery, as in other matters, to see that the instances included in the tables are, in verity, instances at all. To include cases which are really examples of the lamentable neglect of the use of an instrument in any statistics of its death results, is to give us a very incorrect view of its value or danger.

It may be further remarked that, with the more complete education of medical men, the midwifery of the present day is vastly different from that in the last generation. Cases are attended to earlier, and more skill is employed in delivery. To this must be added the advantage derived from better instruments, and the immeasurable boon of anæsthesia.

Forceps.

We find on reference to Smellie's work that he gives the history of fifty-six cases, in which delivery was effected by the forceps, and three of these were fatal.

Case 1 (p. 270).—There was a prominent sacrum. The head was impacted and the forceps used with much power. The patient's mother gave her half a pint of rum on the second day. She died comatose.

Case 2 (p. 343).—The patient was taken with convulsions, for which she was bled to twelve ounces and delivered by forceps. She died comatose. Dr. Smellie remarks that she would have recovered had she been delivered sooner.

Case 3 (p. 374).— Carried off by purging in a few days. Too early use of forceps. Great force. Child's head galled.

Dr. Ramsbotham relates ('Practical Observations') four cases terminating fatally, in which the forceps had been used.

Case 1.—In labour two days. Seized with severe pain in her right side, near the navel, with the sensation of something having given way within her. Breathing then became short. Pulse small and quick, tongue dry, countenance looked ill. Urine had dribbled away all the labour. Child's head on perineum; delivered by forceps. Death on second day. On examination, peritonitis was found. The bladder was empty, its fundus blackish for about the size of half-a-crown, and on raising it a hole was found sufficiently large to admit the finger. Fleshy tubercle, size of hen's egg, on uterus opposite opening in bladder. (Page 419, part I.)

Case 2.—Flooding for two hours and a half. Countenance pallid and sunken. Patient extremely faint; hands cold; pulse scarcely perceptible. Membranes were then ruptured. Labour went on well for some time; the pains, however, became deficient, and, owing to her low state, the child's head was extracted. Soon after delivery patient became excessively restless, tossing about from side to side, and died in half an hour. (Page 160, part II.)

Case 3.—Under midwife's care. Violent flooding. Patient was found with considerable discharge, extreme faintness, cold hands, and a weak pulse. Membranes were then ruptured. The flooding having ceased for some hours suddenly returned. Forceps applied and head extracted. After delivery she appeared in a most exhausted state, under which she languished for a short time and gradually sank. (Page 166, part II.)

Case 4.—One child born in a putrid state. Violent rigor then occurred. Considerably exhausted when seen thirteen hours after birth of first child, and in four hours more a dead child was soon extracted by the forceps. Hand had to be passed into uterus to remove large portions of adherent placenta. Patient never rallied; she was in a sinking condition next day. (Page 340, part II.)

During Dr. Collins' mastership at the Dublin Lying-in Hospital forceps was used in twenty-four cases, and four of these died.

Case 1.—Admitted in the evening. Pains trifling till seven next morning; at half-past nine she became insensible. Case being such as to admit of forceps, she was at once delivered. Strength rapidly sank and she died in three hours. Body much emaciated and covered with scrofulous sores. (Page 367.)

Case 2.—In labour forty-eight hours with sixth child. No progress for twelve hours, although uterine action was violent. She complained of most acute pain in her right leg and thigh, and her pulse became hurried. Forceps used. Considerable exertion to effect delivery. Profuse hæmorrhage after birth of child. On the second day she had tenderness of the abdomen, which was removed by leeches. On the fourth day pulse sank rapidly, and the extremities exhibited in the most marked manner the appearance of diffuse cellular inflammation. *Sectio cadaveris* revealed the abdominal viscera to be healthy; slight bush on anterior surface of uterus. Muscles decomposed; blood fluid in all parts. (472.)

Cases 3 and 4.—Particulars of these not found, unless they be the two cases of craniotomy (pp. 464, 469) in which the forceps was used before the perforator.

Dr. Collins says at page 15, "Four of the twenty-four women delivered in the hospital with the forceps died, *not, however, from any injury connected with the actual delivery.*"

The five fatal cases after the use of forceps related by Messrs. McClintock and Hardy are the following:—

First in labour		26	hours.
Second	,,	40	,,
Third	,,	68	,,
Fourth	,,	48	,,
Fifth	,,	37	,,

Case 1 (p. 111).—Suffered from poverty and every kind of wretchedness before admission; broken down in health. Second stage of labour prolonged from uterine inaction.

Case 2 (p. 113).—Antimony and venesection in first stage to avert convulsions of which there were some premonitory symptoms. She died on the seventh day from uterine phlebitis, "not from any injury sustained during operation."

Case 3 (p. 114).—Rupture of uterus apprehended from the violent uterine action for which she was bled. Symptoms of great prostration supervened and the forceps was used. Patient had cough on admission; this increased, and she died on the fourth day. General bronchitis of both lungs was found and emphysema of the right one. Peritonitis and uterine phlebitis.

Case 4 (p. 114).—Patient had cough on admission. She was bled and tartar emetic given to promote dilatation of os uteri. After the head had been on the perineum some time a rigor occurred and great depression; forceps applied; death on third day. A post-mortem examination revealed intense bronchitis with muco-purulent fluid. Serous effusion in peritoneum.

Case 5 (p. 115).—In very impaired health on admission. There was no difficulty in the operation, which was performed for uterine inertia. Woman died on third day from peritonitis and disorganisation of ovary. Sloughing of posterior vaginal wall.

The following are the fatal cases after the use of the forceps reported by Dr. Robert Lee:

Case 1 (8).—Forceps used with violence and succeeded by craniotomy. Before the latter operation the patient was in an extremely serious condition, and died a few hours after delivery.

Case 2 (9).—Forceps succeeded by craniotomy. The forceps ought not to have been used; the head was drawn down and impacted so that it was difficult to extract one of the blades. Delivery, after perforation, was accomplished with great trouble. The patient died in forty-eight hours.

Case 3 (11).—Protracted labour; forceps was used, bringing away a dead child. Dr. Lee says, "The usual symptoms of ruptured uterus supervened, and she did not long survive."

Case 4 (12).—Very protracted labour. Long forceps used by an "obstetric lecturer of the greatest celebrity;" much force was used in the extraction, but scarcely had the delivery been accomplished than the patient became restless, sick, and faint, threw her arms incessantly about her. She died in three hours "with symptoms of ruptured uterus."

Case 5 (22).—Convulsions; delivered by forceps. Died in seven hours.

Case 6 (26).—Convulsions; bleeding; forceps. Fits continued till she died.

Case 7 (28).—Similar case.

Case 8 (43).—Convulsions; forceps; no progress; perforation and delivery. Fits continued till death.

Case 9 (50).—Convulsions; bleeding; forceps. Fits till death.

During Dr. Shekleton's mastership at the Rotunda Hospital 200 women were delivered by forceps, and of these eleven died. The history of the cases is given by Johnson and Sinclair.

Fatal cases.

Case 1.—Admitted with acute bronchitis. Duration of labour forty hours. Ergot was given and the forceps used, the patient being under chloroform. Pneumonia set in on the fourth day, and she died on the eleventh day after delivery. Double pneumonia was found post-mortem. The abdominal viscera were perfectly healthy. (Page 178.)

Case 2.—Primipara, in labour forty-two hours. Fœtid and olive-coloured discharge and patient getting exhausted, the forceps was applied. Child dead. Phlebitis on third day, death on the eighth. (Page 201.)

Case 3.—Primipara, æt. 36. Progressed favorably after delivery for twenty-four hours, but on the second day "low fever" set in and she died on the third. Great mental anxiety from the first onset of labour. Post-mortem examination did not disclose cause of death. (Page 208.)

Case 4.—Primipara, æt. 41, in labour fifty-three hours. Œdema of wrists and ankles. Serous infiltration of labia, which had to be punctured. Heavy stupor set in on the third day, and she died the same night at twelve o'clock. *Autopsy.*—Pus in uterine sinuses. Peritonitis; kidneys vascular, their capsules adherent. Fatty degeneration.

Case 5.—Easy delivery with forceps. On the evening of the second day she complained of headache and sore throat, and on the next morning the rash of scarlatina appeared, and she died on the

fifth day, the immediate cause of death having been rapid effusion into the ventricles of the brain. (Page 219.)

Case 6.—Primipara, æt. 30. Duration of labour thirty-four hours. Child evidently dead some time before delivery. Peritonitis on the evening of the second day and death on the fourth day. No autopsy.

Case 7.—Primipara, æt. 22. Violent convulsions during labour, which continued after delivery. She never recovered consciousness and died on the third day. (Page 297.)

Case 8.—Primipara, æt. 30. Convulsions during and after labour. Died comatose a few hours after delivery. (Page 417.)

Case 9.—Admitted after completion of first stage of labour. In eight hours uterine action had become trivial, and there was tenderness on pressure on the abdomen. The pains ceased altogether. Ergot was given, but it failed to excite the uterus. She was delivered next day by the forceps "without the least difficulty." She died ten hours after delivery. On a post-mortem examination the anterior wall of vagina, at its junction with the uterus, was lacerated to a considerable extent. (Page 447.)

Case 10.—Admitted with œdema of upper and lower extremities and albuminous urine. Had had convulsions. Breathing short and laboured. Pulse 120. Forceps applied and dead child extracted. Improved till fourth day, when she died suddenly. *Autopsy.*—Effusion in pericardium. Abdomen contained much serum and two large clots of blood. Blood was effused between the layers of the great and lesser omentum and the transverse meso-colon. The vessel from which it had come could not be found. No peritonitis; uterus and appendages healthy.

Case 11.—Entered as having died from peritonitis. We have not been able to satisfy ourselves as to the case referred to. Probably it is the one reported on page 308, a case of twins. Forceps used for first child. Progressed favorably till seventh day, when peritonitis set in, and she was removed from hospital in a sinking state.

Cause of Death.

Double pneumonia; abdominal viscera healthy	1
Convulsions, 3; phlebitis, 2; scarlet fever, 1	6
Peritonitis, 2; laceration of vagina (forceps used without the least difficulty), 1	3
Unascertained	1
	11

Version.

Although it is not difficult to collect a large mass of information respecting the comparative frequency with which the operation of turning has been employed in the public and private practice of different physicians, yet in only a few instances is the maternal mortality given by these authors; and Dr. Churchill, who has evidently found this difficulty, introduces his table with the following remarks :—

"I have taken all the numbers upon which I could depend, and though the list is not extensive, I believe that the average mortality will be found pretty correct."

The only British authors quoted who have given the maternal death-rate in the report of their cases are—

	Number of cases.	Mothers lost.
Clarke	48	6
Collins	33	3
Beatty	6	1
McClintock and Hardy	23	1
Hall Davis	60	3

When it is remembered how various are the causes for which version is employed, and how dangerous in themselves are the conditions out of which it is attempted to rescue the mother by its means, it is clear that if, in order to arrive at a true line of practice, we include in one table all the fatal cases, and thus attribute the death to the operation, we undoubtedly arrive at conclusions most unfair to it, particularly if we made use of only a scanty number. We will,

however, proceed to examine the above table, excluding the first-named author (Clarke), as we have not been able to find an account of the cases themselves.

It is, however, right to add that Dr. Churchill makes the following qualifying statement :—"I do not give this result as the exact mortality of the *operation,* because it is evident that the deaths in many cases must have been owing to the *cause* which demanded the operation, as in placenta prævia ; but as we find that, even in several of these cases, the fatal termination was evidently more owing to the operation than to the hæmorrhage, I am inclined to think the calculation not very far from the truth, if we include hospital cases as well as those from private practice."

Dr. Collins gives reports of thirty-three cases, with three maternal deaths.

Case 1, introduced by the author in the following terms:

"This was a severe affection of the brain with probable effusion into the ventricles." Rupture of membranes on June 28th. Admitted to hospital on the evening of the 29th. On the 30th a hand and an arm were discovered in the vagina. The child was then turned without much difficulty, and the placenta soon followed. On the third day she complained of her head, was much agitated, respiration was quick, but neither the pulse nor the tongue differed much from its previous state. Leeches were applied to the head and a blister was placed on the neck. Stupor and insensibility came on, and she died comatose on the seventh day after delivery. A post-mortem examination showed the uterus and intestines to be quite healthy, but an examination of the brain was not permitted. (P. 75.)

Case 2 (p. 78).—There had been considerable hæmorrhage before admission. Arm and shoulder found presenting with an edge of placenta near the mouth of the uterus. There was a good deal of difficulty in delivery, owing to the large size of the child. Rigors and pain in abdomen next day. Treated with leeches, purgatives and calomel. Died on the ninth day. The abdomen exhibited the appearance of vascularity ordinarily witnessed in puerperal fever. There was no coagulable lymph except near the liver. The uterus was healthy. "Puerperal fever was very prevalent in the hospital at the time."

Case 3 (p. 80).—Admitted in a very weak and exhausted condition, having suffered from hæmorrhage for five or six hours, which continued on admission. Os uteri high up, the size of a shilling. The membranes were punctured, but this did not altogether stop the hæmorrhage. In three hours' time, the os uteri being soft and nearly fully dilated, and the shoulder presenting, the hand was passed, but with great difficulty, and the child was turned. The child was dead and seemed to have been so for some time. During delivery a large quantity of clotted and fluid blood escaped from the uterus. Uterus seemed to contract firmly and regularly; still a slight oozing of blood continued, which it was found impossible to stop, and under which she sank. A laceration of the uterus was discovered post-mortem at its anterior part towards the left side extending nearly two inches from its mouth towards the fundus. There was no laceration of the peritoneal coat, but blood had insinuated itself between this and the surface of the uterus. It was the patient's ninth child.

In only the last of these three cases can the operation be even suspected of having had any share in the production of the fatal result, and even in that case it is doubtful whether the mischief had not occurred previous to its performance.

Out of the twenty-three cases of transverse presentations recorded by McClintock and Hardy ('Practical Obstetrics'), in which version was performed, one mother died.

Case 1 (p. 185).—Primipara, æt. 21. First child presented by the feet. The arm was found to be the presenting part of the second. Turning was effected without delay. Placenta came off very soon. Some hæmorrhage followed it. Tenderness of uterus on the second day, and this was worse on the third day. The patient was bled, and mercurials were given. Diarrhœa supervened, and she died on the twelfth day. *Autopsy.*—Turbid serum in abdominal cavity; uterus large; no marks of external inflammation, but puriform matter exuded from incisions made into its substance at the insertion of the broad ligaments.

In all McClintock and Hardy's cases of turning for hæmorrhage the mothers recovered.

Dr. Hall Davis ('Parturition and its Difficulties,' p. 339) states that in 13,783 labours turning was performed in sixty

cases; and that three of the sixty mothers died. Forty-five out of the sixty were cases of transverse presentations, and respecting these Dr. Davis says:

"All the mothers did well, excepting one who died of acute jaundice on the day after delivery by turning" (p. 325). All the mothers whose labours were complicated with accidental hæmorrhage, and whose children were turned, "had good recoveries."

The two remaining deaths were cases of placenta prævia.

Case 2 (p. 329).—Partial placenta prævia with arm presentation. Surgeon failed to turn; chloroform was given, and the operation easily effected. The patient had not lost sufficient blood to blanch her, even on the removal of the placenta. It appeared that she was a very obstinate woman, of intemperate habits; and that in defiance of instructions, she persisted in sitting up directly the midwife left her, an hour after delivery. While in this posture profuse bleeding set in and proved quickly fatal.

Case 3 (p. 331).—Complete placental presentation; blood had been draining away for some hours. "Turning was resorted to as soon as the os uteri would allow of it; child still born. Mother died during delivery."

Dr. Davis says, "The plug was not adopted. It should have been applied during the delay before delivery could be undertaken. Had it been, I am disposed to believe this mother's life might have been saved."

Thus it is seen that one of the above cases died of acute jaundice, the other two from hæmorrhage.

Dr. Cleveland was willing to admit that the authors had clearly made out a case showing the dangers that were likely to accrue from the use of imperfect statistics, but on the whole he was disappointed that they had suggested no remedy. He thought such accuracy of judgment and skill in operating as would insure data for perfectly reliable statistics on a comprehensive basis were scarcely obtainable. He would like to be informed if it would be better to draw conclusions from individual rather than from groups of cases.

Dr. Playfair said that it was impossible to listen to the details of the cases collected by the authors from their original sources without being struck by the lesson of the importance of not delaying

interference too long in difficult cases of midwifery. They showed, beyond any doubt, that the fatal result was in almost all of them to be traced to unnecessary and culpable delay in resorting to artificial delivery, which was put off until the patient was in a state of extreme exhaustion. The whole tendency of modern midwifery seemed to him to show the importance of early interference in suitable cases. The old axiom that "meddlesome midwifery is bad midwifery" often led, as he thought, to much mischief. It was only true when applied to ignorant and uninstructed practitioners. When the practitioner knew what he was about, and was able to recognise the indications that nature was incapable of completing labour by its unassisted efforts, the sooner artificial aid was resorted to the better. If this fact was more widely recognised, and it was daily being more and more admitted, many a maternal and fœtal life would be saved. He wished that the authors had referred to the very remarkable results obtained by Dr. Hamilton, of Falkirk, who, by a frequent and early use of the forceps, had attained the remarkable result of upwards of 700 consecutive births without a single stillborn child. The truly scientific practice seemed to him to be not to dread operative interference, but to know when and how to resort to it.

Dr. Heywood Smith thought the paper one of great practical usefulness, inasmuch as by drawing attention to the existence of fallacies in the statistics of mortality after obstetric operations, it opened the way to a more scientific method of operating, viz. when it is determined that an operation is necessary, the sooner it is proceeded with the safer for the patient. He would suggest, as the practical fruit of such work, that the Council of the Society draw up a form for circulation among all medical men practising midwifery, so arranged as to facilitate the more accurate and ready registration of all cases of difficult labour, wherein it might be seen at a glance what the special difficulty or abnormality consisted in, and the means that were taken to alleviate it. That these forms should be collected and a yearly statistical report drawn up by a Committee appointed for that purpose.

Dr. Madge said he should like to have learnt, from the authors of the paper, more of the results of their own practical experience as compared with that of the authorities they had quoted. For the last sixteen years he had been largely engaged in the practice of midwifery, and in his own practice and in that of others, when he had been called in to render assistance, he had seen a good deal of operative midwifery. With regard to craniotomy and forceps cases he had been fortunate enough never to have had a case attended with fatal results to the mother. In one case of breech presentation the patient was bordering on exhaustion when he was called in—delivery was effected by means of the blunt-hook, but the patient never rallied. It is probable that her life would have

been saved by an earlier interference. This case, and all his other experience, tended to show that the principle advocated in the paper against delay in employing instrumental or other aid in cases of difficulty was a sound one and should be strongly enforced.

Dr. ROGERS thought there was great labour and critical skill evinced by the authors in examining the original cases from which the various writers on obstetrics had compiled their tables of mortality. Dr. Rogers' experience in operative midwifery had not been very great, though connected with the Western Division of the Royal Maternity, the Samaritan, and other lying-in institutions, but it quite agreed with the results deduced by the authors of the paper just read, that the great mortality in operative midwifery resulted from delay in operating. The only case of death after craniotomy in Dr. Rogers' practice resulted from delay, sloughing accompanied by diarrhœa carrying off the patient. Dr. Rogers thought that the best thanks of the Society were due to the authors of the paper "On the Mortality after Operations."

In answer to the various remarks the PRESIDENT said that he was led to the inquiry in consequence of observing that his own cases of difficult midwifery operations did not show anything like the mortality placed in the tables. He referred back to the original cases whence the tables were derived, and found that the results were really not so different after all. The abstracts of each case had been introduced into the paper so that the Fellows could judge for themselves, and therefore it would have been contrary to the idea had he and his colleague introduced other material as suggested. It was written to show that the death results attributed in tables which were quoted everywhere, were not really in the great majority of the cases due to the operation, but to its neglect, and to the conditions out of which the operations were intended to deliver the patient.

Dr. PHILLIPS said that he was pleased to find that the general experience of the Society declared in favour of the belief expressed in the paper, that the mortality after obstetric operations in a large proportion of cases was wrongly attributed to the operations themselves. Probably many accoucheurs were influenced in delaying instrumental assistance by the high rate of mortality assigned to craniotomy or the use of the forceps. The practical lessons were easily deduced, but with these Dr. Hicks and himself were not on that occasion specially concerned; their chief object was to prove the unscientific manner in which the ordinary tables of mortality had been compiled, and to call attention to the wrong conclusions which had been drawn from them. This he hoped had been accomplished.

A CASE IN WHICH THE ENTIRE OVUM WAS EXPELLED AT THE SEVENTH MONTH AND THE CHILD RESCUED ALIVE.

By John Brunton, M.A., M.D.,
SURGEON TO THE ROYAL MATERNITY CHARITY, ETC.

On the 29th of last December, at 11 p.m., I was hastily summoned to Mrs. M—, æt. 32, then in labour with her fifth child.

After dressing I went out and met the messenger, the husband, who told me that the child was born. He did not live far away, so that in five minutes I was in the house, and found Mrs. M— lying in a corner of the room on the floor. I asked how she came to be there and not in bed, when she told me that, having had that day to give evidence at an inquest on a child of her own which had died suddenly a few days before, she had been rather upset, and that, though she did not expect to be confined for a couple of months, all of a sudden, as she was about in her room, she had rapid pains and a child dropped from her. She lay down in the corner as above mentioned.

Now, as no preparation had been made for this event, and there was no assistance at hand, I was under the necessity of searching for thread, scissors, &c., and some little time elapsed before I could separate the child. After I had done so I said I was going to feel if the afterbirth had come away. She said yes, it came at the same time as the child; and certainly the uterus was quite contracted and of the usual size. Pulse quiet; no discharge. I went into the next room to procure a vessel into which I might put the placenta. I found a bason, and when I lifted the clothes a little for its removal, I was surprised to find not only a placenta, but a complete set of membranes entire, with placenta attached, covering another fœtus. In fact the first child was born, and followed immediately by the second intact.

I immediately lifted the second ovum into the bason. On examination externally there was the free surface of a large single placenta of the double battledore type, one cord external and the other internal. I now slit the membranes with scissors and lifted the second child out of the liquor amnii, alive, tied the cord, and handed it over to an assistant who had now arrived. The child cried as lustily as a seventh-month child would do, and showed more vitality than the firstborn. The mother, having been attended to, was carried into the next room to bed. She has done well. The children died—the firstborn next morning, and that which I had removed from the membranes died about twenty-four hours after birth.

I have given details here with perhaps tedious minuteness, but this has been necessary in order to estimate the length of time that the second child lay in its membranes without placental breath and circulation or atmospheric respiration, and yet was rescued alive and hearty.

On a careful estimate of the time, and after a minute inquiry of the mother, I find that the second child must have been born at least fifteen minutes or more before being taken out of the membranes. The child was not drowned, nor suffocated, nor bloodless. The complete separation of the placenta and its exposure to the air had stopped its circulation; the child had not breathed for a quarter of an hour, and yet was alive.

What is the bearing of this interesting case?

I think it points distinctly to a method of treatment in placenta prævia advocated by the late Sir Jas. Simpson and others, viz. the removal of the whole placenta before delivering the child. Sir James removed the placenta to stop the hæmorrhage, and had many cases in which, the placenta having been removed, the child was alive.

I related such a case last year, in which the placenta was removed and lay on the bed for ten minutes before the child was born, and it was born alive. It is also an interesting fact to record the birth of an entire ovum at such an advanced period of gestation. One such case I had some years ago,

but in that there was a putrid fœtus and syphilitic placenta, and the period about the sixth month.

The conclusion to be drawn, then, is that the entire separation of the placenta for fifteen minutes at least, though the child has not breathed, by either detention in utero or in nearly similar condition, in the liquor amnii and membranes, is not necessarily fatal to the infant.

Dr. Madge said, with regard to the absence of hæmorrhage from the placental surface, the case was only an additional proof of the correctness of the views he held on the subject. The mere separation of the two layers of decidua serotina and uterina did not necessarily give rise to hæmorrhage; this only occurred when those membranes from various causes commenced to break up. With regard to the interesting fact that the child lived enclosed in its membranes fifteen minutes after being expelled from the uterus, the probable explanation was, that (as the fœtus in utero had somewhat of an aquatic existence) it was still in its own element, and for awhile not far removed from intra-uterine conditions. How long, with the separation of the placenta and gradual loss of temperature, it could have lived in this state was doubtful.

Dr. Heywood Smith did not see why the child should *not* have been alive. It was not in the condition of a child born with the stimulus of the external air producing inspiratory effort, and so incurring the danger of drowning, but in this case, with the exception of slight loss of heat, the child was in a natural condition; its circulation continued as if it had been still in utero, with the substitution merely of aëration by the atmosphere, acting directly upon the uterine aspect of the placenta, for the maternal blood. There is no doubt that, if warmth had been kept up, the child might have lived longer.

Dr. Granville Bantock suggested that the age of the fœtus was an important element in the consideration of the case, for it was probable that, at that early age, its vegetative nature rendered the fœtus capable of sustaining life for a much longer period than at the full period, when three or four minutes generally sufficed to place the child beyond all aid.

Dr. Cleveland remarked that he had within the last fortnight been called to a lady at full term, whose child and placenta were expelled with scarcely more than a hæmorrhagic stain on the bed-linen.

Dr. Wiltshire thought the case had medico-legal bearings, and on that account, as well as for other reasons, was interesting.

Dr. Grigg said the practical lesson was to take care, should the

placenta be expelled before the birth of the child, to expose its uterine surface to the air.

The PRESIDENT agreed with the explanation given by Dr. Heywood Smith, namely, that, as the placenta was exposed to the oxygen of the air, the circulation was kept up. The exposure to cold might at the same time lessen the demand for oxygen. It was difficult to say how long such an existence could be sustained; if the placenta were moist it might be for some hours.

APRIL 5TH, 1871.

J. BRAXTON HICKS, M.D., F.R.S., President, in the Chair.

Present—43 Fellows and 4 visitors.

Books were presented by Dr. George Johnson and Dr. Spiegelberg.

The following gentlemen were admitted Fellows of the Society:—Mr. George Eastes, Mr. Clement Godson, Mr. David Mathias (Cardigan), Mr. P. G. Philps, and Mr. Walter Rigden.

The following gentlemen were elected Fellows of the Society:—Eli James Barrick, M.D. (Toronto), Thomas Sanderson Bulmer, M.D. (Woolwich), Alan Reeve Manby, M.R.C.S. (East Rudham), Chittathore Banloo Modelly (Madras), and Lawson Tait, F.R.C.S. (Birmingham).

Mr. Edward Martin (Weston-super-Mare) was proposed for election.

It was proposed by Dr. BARNES, and seconded by Dr. MURRAY, and carried unanimously, that a vote of sympathy and condolence be given by the Society to the surviving relations of Professor Lazzati, of Milan.

Dr. Graily Hewitt exhibited a child whose forearm had probably undergone amputation in utero.

Dr. Wiltshire said it would be interesting to know what became of the parts amputated in utero. Sir James Simpson and others had figured cases in which nearly complete absorption had occurred. Subsequently Dr. Wiltshire remarked that the discussion had shown the necessity that existed for careful dissections of deformities of the kind shown by Dr. Hewitt.

Dr. Barnes observed that it was not often strangulation by the umbilical cord that caused these amputations, but by a string of false membrane. Cases were known in which the amputated foot had been found separate in the uterus, and he had a drawing of a case in which the amputation was in progress. In the case exhibited there was, as in most instances, a budding of a new limb from the stump, analogous to what was observed in some of the lower animals which had lost a limb. He regarded this budding, with the signs of cicatrix, as proof of amputation in the early stage of development.

Mr. Scott observed that, if such cases occurred, he thought they were the exception. He knew a family in which the grandfather had both forearms wanting, with a rudimentary but very useful thumb and finger at each elbow. In the next generation there was no deformity; but in the succeeding one a son had both arms perfect to the wrist, and then terminating with rudimentary hands, with a thumb and finger on each hand. As in each case the deficiency existed in both arms symmetrically, it would be impossible to conceive that it could have occurred from any accidental constriction in utero.

Dr. Brunton showed, for Mr. J. Ashburton Thompson, a wax model of a successful vaccination performed with the lymph from a secondary vaccination.

Mr. Eastes considered the most obvious criticism upon the case to be that, although occasionally lymph from a secondary vaccination might, as in this instance, produce a good vesicle, still it could, in general, be by no means depended upon for that purpose; and he believed it was bad practice, as a rule, to vaccinate with lymph from a revaccination.

Dr. Wynn Williams protested against such a proceeding, and hoped that none of the Fellows would be tempted by the apparent success to follow the example of vaccinating with lymph taken from

a revaccination. There had been already one case of death recorded from blood-poisoning by lymph taken from a revaccination, at Liverpool. A chemist's assistant had been himself revaccinated, and from his own vesicle revaccinated a friend, who died as before stated. It would be interesting to know whether or not vaccination from a revaccination was any protection against smallpox by again submitting any patient who had been so vaccinated to a revaccination with lymph from a primary vesicle.

The PRESIDENT did not see the advantage of employing secondary lymph when other kinds could be attained. If none other could be had it was better to use that if any one was exposed to contagion suddenly; but he held that the person should, as soon as convenient, be revaccinated from primary lymph. It was in his opinion, and that of many others, that the plan of employing secondary lymph had tended to enfeeble the protective power of vaccination to a certain degree.

Mr. SCOTT said the main point for consideration was, whether lymph obtained from secondary vaccination afforded any protection against smallpox. Mr. Scott had, from necessity, vaccinated a gentleman from secondary lymph taken from a healthy adult female, and produced by it perfect vesicles. The gentleman, being much exposed to contagion, Mr. Scott revaccinated him about three weeks after, from primary lymph, and again vesication took place, but less perfectly, and was more rapid in its course.

Dr. WYNN WILLIAMS exhibited a mole or blighted ovum passed by a lady supposed to have been three months advanced in pregnancy. It had the appearance of a fleshy ball, and when cut into was hollow, with veins or sinuses in its interior filled with blood, not unlike so many distended leeches. The passage of the mass was attended with very little hæmorrhage.

Dr. PHILLIPS thought such an appearance was not uncommon in an apoplectic ovum, in which the blood was effused between the decidua and the chorion, the latter and the amnion being raised by it, and forming distinct masses on the fœtal surface.

Dr. WESTMACOTT narrated a case of triplets and exhibited the fœtuses.

Dr. Barnes exhibited two instruments which he had found of great service in the treatment of uterine diseases. The

first was a modification of Lallemand's porte-caustique, designed to carry into the uterus a stick of sulphate of zinc. It was passed as easily as a sound, without exposure, and without help of speculum. The second was a speculum for the purpose of facilitating the introduction of pledgets of wool carrying any indicated medicament into the vagina. A great object attained was to enable patients to apply remedies of this kind themselves. It was in use at St. Thomas's and in his private practice, and was found to answer well. A convenient instrument of this kind would be found of signal service in the treatment of cancer, vaginitis, and other diseases.

Dr. Wynn Williams also showed a patient who had been suffering from epithelioma of the lower lip; he was sent to him by his friend Dr. Savage. The patient had been previously operated upon at Guy's Hospital, nearly the whole of the lower lip having been removed by a V-shaped incision last October twelve months, the disease shortly appearing in the cicatrix. The growth was successfully treated by two injections of bromine, twenty drops of bromine to a drachm of spirit, five months ago. There is now no appearance of disease, and the patient has a very good lip, very little of the mucous membrane having been destroyed by the injection. The patient was exhibited in order to exemplify the effects produced in similar diseases when situated in the neck of the uterus.

Dr. Barnes moved a resolution expressing the regret felt by the Society at the loss of Professor Pietro Lazzati, a foreign Honorary Member, and its sympathy with the late Professor's relatives and friends in the great loss which they have sustained. Dr. Barnes felt assured that the Society would feel with him that the high character of Professor Lazzati and the eminent services he had rendered to science and humanity deserved this tribute of acknowledgment at their hands. Lazzati, as Director of the Lying-in Hospital

of Milan, had been the means of spreading abroad a vast amount of valuable clinical information and sound instruction. He was held in high esteem in Italy as a man of elevated character and patriotism. He had served as a volunteer in the war for national independence in 1848, and his old comrades had followed him to the grave. Dr. Barnes felt that such an expression of sympathy would be cordially received as a proof that there existed a solidarity amongst men of science which rose above all considerations of national differences.

Seconded by Dr. Murray, and carried.

Dr. Protheroe Smith narrated a case of ovarian tumour.

H. E—, æt. 59, single, admitted under Dr. Protheroe Smith, March 24th, 1871. Catamenia had ceased for ten years. A hardness was first noticed in the lower part of the abdomen five years ago. Six months afterwards she consulted a practitioner in the country, who told her she had an ovarian tumour the size of a cocoa-nut. It gave her no trouble and she felt quite well. He advised her to wear a bandage across abdomen, which she has worn ever since. The tumour has gradually increased in size, giving her very little discomfort; occasionally this last year she has had very severe shooting pains in it, but has never had to keep her bed.

On admission patient complains of aching pain in right side of abdomen, worse on standing, more so than walking; can walk a couple of miles without much trouble. General health good; pulse 80, of good time, full, somewhat hard and incompressible. Abdomen occupied almost entirely by a mass, reaching up to ensiform cartilage, dull all over, fluctuating; solid matter felt all up right side. Vaginal examination showed uterus to be atrophied; nothing felt of tumour.

April 1st.—Operation. Tumour tapped and removed; pedicle tied and dropped into abdominal cavity, as also a band of adhesions connecting tumour with intestines and cellular tissue in pelvis on left side; nothing abnormal discoverable in intestines, peritoneum, or adhesions. The

fluid removed measured eight pints, thick, dirty yellow in colour, with masses of white sloughy material floating in it; very faintly alkaline in reaction; sp. gr. 1026; highly albuminous; under the microscope found to contain abundance of cholestearin crystals, and some cells full of granular matter. Cyst, which was purely unilocular, weighed two pounds and a half; on its right side were three hard nodules, the largest about $2\frac{1}{2}$ inches one way by 2 inches the other, the other two were rather smaller; in making a section through one it was found hard to the knife, though not distinctly creaking, and a scraping from section looked at under the microscope had the following appearance; a quantity of cells of various sizes and shapes with a distinct nucleus, and full of granular matter, some of the cells caudate, some bicaudate. Rest of exterior of cyst perfectly healthy. The inner surface of the cyst at situations corresponding to nodules before mentioned was studded with excrescences of sloughy material like that seen floating in the fluid. These under the microscope showed much larger cells, with a nucleus and granular matter, and crystals of cholestearine. Of the rest of interior of the cyst some was apparently healthy, but the most part of it was stained yellow colour by the fluid withdrawn, and was rough to touch.

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CASE OF ABSCESS OF OVARY; PERITONITIS; DEATH.

By Arthur W. Edis, M.D.,

PHYSICIAN TO THE BRITISH LYING-IN HOSPITAL; ASSISTANT-PHYSICIAN, HOSPITAL FOR WOMEN, SOHO SQUARE.

A. P—, æt. 12, formerly a stout, active, precocious child, with considerable mammary development, first began in November, 1870, to complain of pain and weight in the lower abdomen, swelling and tenderness of the breasts, frontal headache, feeling of coldness, vomiting and other

constitutional symptoms. Her general health became much impaired, the mind irritable, the body emaciated and somewhat sallow. She could not hold herself up straight, but walked with the body inclined forwards, always remaining, by choice, "doubled up" by the fire, though at times she would run about and play as if nothing ailed her. As far as could be ascertained from the mother the paroxysms of pain did not return at regular intervals of a few weeks, though she herself regarded them as symptomatic of the approaching catamenia which as yet had not appeared. The bowels were at times very confined, alternating with diarrhœa, which would last for several days.

A fortnight before her death she became very ill and feverish, vomited bile, could keep nothing down, was delirious with the pain in the abdomen, which nothing seemed to ease. From this time she gradually got worse and died on February 18th, 1871, scarcely four months from the commencement of her illness.

Post-mortem twenty-four hours after death (Mr. Walter Rigden being good enough to assist me).—Body emaciated, abdomen distended, dulness on percussion anteriorly, resonance in both flanks, distinct fluctuation over abdomen generally. On making an incision through the abdominal wall, thick, greenish-yellow pus with flakes of curdy lymph poured forth, nearly two pints being removed by a sponge. On making a transverse incision and reflecting the flaps, the intestines were found to be matted together and bound down by a dense, excessively thickened peritoneum, which extended from the upper surface of the liver and diaphragm, to which it was firmly adherent, over the intestines down into the pelvic cavity behind the bladder and uterus. Opening into this thickened sac was, what proved to be, the right ovary distended to about the size of an orange, its walls much thickened and covered internally by flaky purulent lymph; the posterior surface had given way, allowing the matter to escape into the peritoneal cavity.

The fallopian tubes were bound down in the thickened

sac of the abscess, posterior to the uterus, and were filled with a thick cheesy tuberculous material.

The left ovary also contained a minute abscess.

The uterus was small, two inches long, healthy in structure.

The cervix seemed to be imperforate.

The liver, spleen, and kidneys were healthy.

The chest was not examined.

Remarks.—I have thought the case worth chronicling, inasmuch as it is unusual at such an early age to find abscess of the ovary; and the narration of it may assist us in forming a correct diagnosis in other obscure diseases of the abdomen.

CASE OF OCCLUDED VAGINA AFTER DELIVERY, WITH SUBSEQUENT RETENTION OF MENSES.

By Samuel Craddock, M.R.C.S., Shepton-Mallet, Somerset,
CORONER FOR SOMERSET.

(Communicated by Dr. Meadows.)

Mrs. M—, æt. 26, a delicate and sallow-looking woman, was admitted into Shepton-Mallet Hospital on February 14th. She states that she was confined nine months ago, had a tedious labour, and was delivered with instruments of a stillborn child; she made a fair recovery, but had always a great deal of bearing down afterwards, to which she called her medical man's attention several times, but of which he took little or no notice, and never made any vaginal examination. About six weeks after her confinement she was seized with pain in her bowels and back and thought she was going to menstruate, but did not, nor has she menstruated since, although at intervals of about three weeks she continually experiences the same pain, accompanied with great bearing down efforts. The distress also increases at each

return of the periods, and it requires very strong doses of anodyne to give any temporary relief. After three or four days the pain passes off and she remains in tolerable comfort until the next period.

Examination.—The uterus can be felt above the pubes, as large as in an ordinary case immediately after confinement; it is movable, symmetrical in shape, and smooth. On attempting to pass the finger into the vagina it is immediately arrested by an apparently solid obstruction, and on placing her in the lithotomy position a membrane having a slight concavity outwards is seen to perfectly occlude the external orifice of the vagina, and at its very lowest parts the remains of a cicatrix are perfectly discernible. On passing the finger into the rectum a large globular mass, soft and freely movable, is felt, which can be freely played between the hand on the abdomen and the finger in the rectum, at its anterior surface, about two inches and a half up; the os uteri, about the size of a fourpenny piece, can be very distinctly felt, and by steady pressure the finger can be made to enter it.

The *diagnosis* which was formed was that sloughing of the vagina occurred after delivery, with subsequent adhesion of its anterior and posterior walls, preventing the exit of the menses, which had been regularly secreted since her confinement.

Feb. 16th.—The bowels having been well cleared out she was placed on the operating table in lithotomy position, chloroform having been first administered. The labia were well pulled aside, and the cicatrix at the bottom of the occluded vagina was readily recognised. I made an incision in the line of this cicatrix, and dissected upwards in the direction of the vagina with a small scalpel laid flat on the forefinger of my left hand. I found it constantly necessary to pass my finger into the rectum in order to keep clear of wounding it (I never before felt so badly the want of a third hand). Having dissected upwards (as far as I could judge about two inches) the pent-up menses rushed out; I pressed

the abdomen above the pubes until I could no longer feel the uterus. She was then carried back into bed immediately, and cloths dipped in carbolic acid lotion were applied to the vulva. The menses continued to discharge during the whole of the following night. On recovering from the chloroform she experienced great pain, and a drachm of tinct. opii was given; on the following morning she felt much freer from pain and more comfortable than she had been for months. The after-treatment consisted in washing out the vagina with weak carbolic acid lotion twice daily, and keeping cloths dipped in the lotion constantly applied to the vulva. A week after the operation she menstruated.

March 9th.—As I found the vagina was again contracting I thought it advisable to apply the knife, which I did with great advantage. Since then she has had a bougie of the size of a small speculum passed daily, and I now regard the case as cured. She will probably require the bougie to be passed daily for some time longer, but the finger now enters the vagina easily, and the os uteri can be felt.

THE VOMITING OF PREGNANCY: ITS CAUSES AND TREATMENT.

By Graily Hewitt, M.D., F.R.C.P.,

PROFESSOR OF MIDWIFERY AND DISEASES OF WOMEN, UNIVERSITY COLLEGE; EXAMINER IN MIDWIFERY TO THE UNIVERSITY OF LONDON.

"Ars medica est tota in observationibus."

The nausea and vomiting so frequently present in pregnancy have come to be associated with this condition in an almost necessary manner, as a part and parcel of the affection, in the minds of the profession at large. Not very rarely, as is well known, the vomiting passes ordinary limits, and causes by its obstinacy and continuance a very serious disease. In a still further degree of intensity the vomiting by its incessant

existence absolutely imperils the life of the patient, and in some few cases death has actually resulted from the combined effects of the starvation and exhaustion produced. The difficulty of dealing satisfactorily with obstinate cases of this kind is well exemplified by the fact that such a letter as the following was published in the 'British Medical Journal' for March 4th:

"Sir,—Can any of our members help me with a remedy or palliative for an obstinate case of nausea and vomiting in pregnancy?—I am, &c., A Country Practitioner."

It is further illustrated by the very numerous list of remedies which are to be found enumerated in the various text-books.

I am prepared to lay before the Society what may be regarded as substantially a new view of the matter, and an explanation of the occurrence of nausea and vomiting in pregnancy, which will, if I am not much deceived, form a basis for the successful treatment or palliation of this troublesome and sometimes grave disease.

The whole question of the relationship of pregnancy to the vomiting or nausea so frequently accompanying it is one of great interest. It is well known that this symptom is not very uncommonly observed almost immediately after impregnation has occurred, the more general circumstance being that it is first observed when the pregnancy has lasted a week or two, the very early occurrence of the symptom apparently lending sanction to the view that the two things, the pregnancy and the vomiting, are related to each other in an inscrutable and inseparable manner.

From the very mild cases, where the symptom only consists of an occasional feeling of nausea, to the exceedingly severe cases where life is absolutely imperilled, we have all sorts of gradations, but it does not appear that essentially there is any difference in the actual phenomenon save one of degree. The pregnancy and the sickness are evidently in the relation of cause and effect.

Further, it must be stated, as a part of the natural history of the sickness of pregnancy, that it is almost, but not quite,

invariably limited to the first four months, the cases being comparatively rare in which it is observed to occur after this time.

I thus briefly allude to the various well-known facts relating to the sickness of pregnancy, because it is evident that one and the same explanation, if one can be given, will apply, or should apply, to the sickness of pregnancy at whatever period it may occur. Any explanation, to be a sound and trustworthy one, must include all the possible cases and account for the various facts.

The fact that, especially in the milder cases, the sickness is particularly observable when the patient assumes the erect posture on rising from bed in the morning, is a very important element in the history of the affection, and I shall have presently to allude to it more particularly.

The explanation generally given of the occurrence of vomiting in pregnancy is, that it is a reflex phenomenon produced by the irritation of the gravid uterus giving rise to this sympathetic disturbance of the functions of the stomach. "The synergic action between the stomach and the uterus, both as regards secretion, sensation, and motor action, are," says Dr. Tyler Smith, who has so ably written on this subject, "amongst the most remarkable phenomena of reflex nervous action" ('Manual of Obstetrics,' p. 99). This fact is indisputable, that the vomiting is the result of a reflex action. But what is the *modus operandi* of the action on the uterus thus setting up irritation? Dr. Tyler Smith's explanation is, that "it is probably caused by the distension and evolution of the dense structure of the uterus after impregnation, or by the pelvic irritation caused by the gravid uterus before it emerges from the brim or from both these causes" (loc. cit., p. 99).

That "the distension and evolution of the dense structure of the uterus" is an exceedingly important element in the explanation of this irritation and consequent vomiting, there can be no doubt, and I am not aware that any writer has given a more satisfactory account of the matter than the one thus proposed by Dr. Tyler Smith.

So far as it goes the explanation thus given is satisfactory, and many arguments may be adduced in confirmation of it. The uterus necessarily expands during pregnancy. The resistance to this expansion has the result of giving rise to compression of the uterine tissues. The nerves of the uterus are mechanically compressed, and irritation is thus set up. Such would be probably the general statement of the professional ideas on the matter; and these ideas are substantially accurate.

But this does not explain many of the most curious facts about the sickness of pregnancy. It does not account for the circumstance that the sickness is so frequently observed only in getting into the upright position in the morning. It does not explain why it is that the sickness is occasionally so severe as to endanger life, and it leaves unexplained, or at least imperfectly so, why it is that the sickness is so commonly limited to the first four months of gestation. Various theories regarding abnormal conditions of the digestive organs as the causes of the sickness have been largely had recourse to, but no one author has been able to observe facts enabling him to put forward this explanation as to the occasional severity of the sickness with any degree of confidence.

Inflammation and congestion, and the so-called ulceration of the os uteri, have been successively invoked to account for the sickness, but certainly the facts of the case do not support this view, unless in a very partial sense, which I shall presently more particularly allude to. The os uteri may be in an unnatural condition; this I believe; but this is by no means an essential concomitant of the sickness.

I will next proceed to set forth the views I have been led to take on the matter, and the shortest method of doing this will be to explain the train of reasoning which induced me to adopt them.

For the last few years I have carefully and rigidly analysed the cases of uterine disease which have come before me, with the endeavour to establish definite relations between the symptoms and the alterations or lesions present. Sickness and nausea are so frequently attendant on uterine disease that

this symptom necessarily comes very commonly under observation. The facts which have presented themselves to me have led me to establish a very close connection between nausea and sickness, and those alterations in the shape of the uterus known as flexions. This connection I have repeatedly, though by no means constantly, observed. I am speaking now, let it be understood, of nausea or vomiting quite apart from pregnancy, and for the moment I wish to speak of cases in which there is no question of pregnancy whatever. I say, then, that nausea and vomiting are rather common symptoms in cases of flexion of the non-impregnated uterus, though it by no means follows that every case of flexion will be attended with nausea and vomiting. Endeavouring still further to trace the connection between the flexion and the nausea or vomiting, I was led to the conclusion, from an analysis of the facts, that it was more likely to be observed in cases where the flexion led to retention of the secretions of the organ, as in dysmenorrhœa, when the menstrual blood does not readily escape, owing to the constriction at the seat of the bend of the uterus, and in certain other cases where the flexion was severe independently of such evidence of retention of fluid in the uterus. Severe flexion thus alone, or coupled with retention of fluid in the uterus, have seemed to me to be demonstrably and unmistakeably the cause or essential accompaniment of the troublesome nausea and vomiting observed in the non-pregnant condition. I am not unaware of the fact that the os and cervix uteri are not uncommonly under such circumstances turgid, congested, and otherwise somewhat changed, but I regard this condition of the os as secondary, and the result of the interference with the circulation at that situation due to the flexion and other concomitant circumstances.

This is by the way, however. I will not dwell further on this question, the relation between flexion of the uterus in the non-gravid state and sickness, further than to state that it has gradually grown to represent itself to me as a fact fortified by observation of numerous cases.

Latterly I have found myself extending a like explanation

to the sickness of pregnancy, and have been led to the conclusion that the sickness of pregnancy is due to the combined effects of the increasing distension of the uterus and an associated flexion of the organ. In other words, I have become more and more convinced that the presence of a flexion of the uterus will, in some few cases, lead to troublesome sickness if the patient becomes pregnant.

It should be observed that I do not here make the sweeping assertion that flexion of the uterus will always give rise to sickness of a troublesome character should pregnancy supervene. I am desirous of exercising caution and do not wish to overstate the case, for reasons which will be presently set forth; but I am nevertheless in the position to state that the facts which have come before me have been such as to show that there is a most obvious and a most unmistakable connection between the supposed cause, the flexion, and the effect, the sickness.

The proofs which I am able to submit to the Society in favour of the truth of the theory now propounded are various in character. Having had occasion to treat cases of sickness in young unmarried women suffering from flexion, it has been observed by me that when those patients marry and become pregnant, the sickness observed is liable to be unusually severe and troublesome. Another class of facts are those presented by patients whom I have been called upon to treat for the first time in consequence of the presence of severe sickness, with pregnancy, and whose condition previous to marriage I have had no means of actually knowing.

In these cases I have, since my attention was directed to the matter, always recognised an abnormal condition of the uterus as regards its shape. Lastly, regarding the cases which have come to me in the course of consultation practice, and where the symptoms of sickness have been still more troublesome, the same fact holds good, the connection between the two things have been observed to exist.

As an illustrative case I will cite the following, which was

observed by me in the month of February of this year, in consultation with Dr. Royston.

The lady, æt. 24, quite recently married, had menstruated last on October 14th, 1870, a very slight discharge being observed on November 3rd. Since November 3rd there had been occasional sickness, and from the end of January up to February 21st, when I first saw her with Dr. Royston, the sickness had been severe. Dr. Royston informed me that the lady was pregnant, that when first called in to see her, about a fortnight prior to my seeing her, the sickness was most severe and trying, and no article of food could be retained. On hearing Dr. Royston's account of the symptoms I expressed my opinion that the uterus was acutely anteflexed, that the fundus of the uterus would be found to be low down, jammed in the pelvis, and that this was the explanation of the symptoms. On proceeding to make an examination my opinion was found to be exactly verified, the os uteri lay far back, the roof of the vagina was projected downwards and backwards by the enlarged and anteverted and flexed uterus, and the body of the uterus was scarcely to be felt at all through the abdominal wall, although the pregnancy was probably of about four months' duration.

The patient had, in my opinion, suffered from anteflexion before marriage, and pregnancy having occurred the uterus had gone on growing and expanding without losing its vicious shape, and, indeed, with an increasing aggravation of that vicious shape up to the time of my seeing her.

The evidence that anteflexion existed prior to marriage is as follows :—The patient was never able to dance without discomfort. She had, six years prior to marriage, taken for six months violent horse exercise to which she was previously unaccustomed, and this was followed by losses similar to those of the menstrual periods, and by diarrhœa. On another occasion, a year later, horse exercise again taken brought on similar symptoms.

In this case the advice given was that the patient should remain altogether in the horizontal position in order to allow

the expanding uterus a better chance of escaping from the pelvis, and that the bowels should be kept regularly open. The result of this treatment was that the chief symptom—the sickness—underwent a most material alleviation. This patient was much relieved, therefore, by a treatment which diminished the flexion.

I mention this case because it is a typical one, but others equally and indeed more illustrative might be given of anteflexion associated with marked, troublesome sickness.

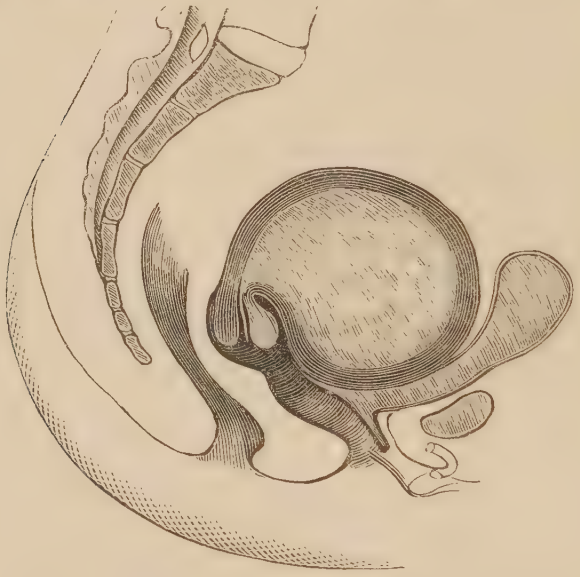


Diagram representing anteflexion of the gravid uterus.

I have also observed cases in which the occurrence of obstinate sickness has been connected with the presence of retroflexion of the gravid uterus. It is now well known, as insisted on by Dr. Tyler Smith, that the retroflexed gravid uterus generally results from impregnation of an already retroflexed organ. Of the truth of this I am entirely convinced from my own experience, and in some few cases I

have observed obstinate sickness to accompany this state of things. I have also observed that under such circumstances the sickness disappears when the organ is restored by artificial means to its proper position.

Anteflexion of the uterus is much more commonly found to be the cause of sickness in pregnancy than retroflexion, simply because it is a comparatively rare thing for the retroflexed uterus to become impregnated, while nothing is more common than for the anteflexed uterus to fall into the gravid

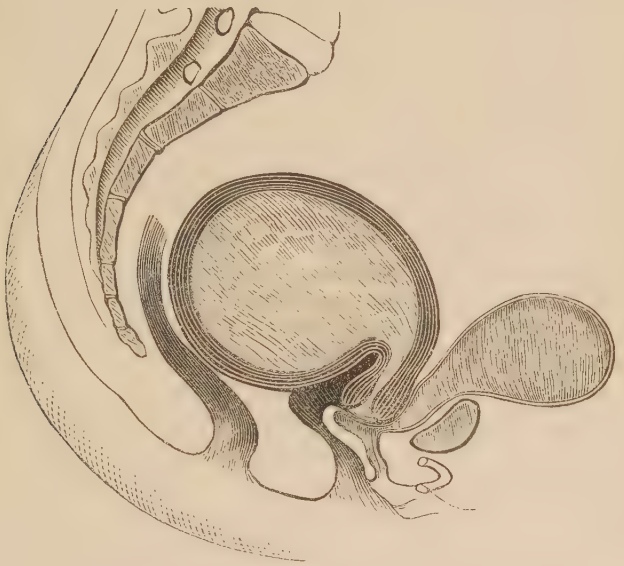


Diagram representing retroflexion of the gravid uterus.

state. Pregnancy is generally, though, as already remarked, by no means universally prevented by retroflexion, a position which is most unnatural for the organ to be placed in, and which pretty effectually hinders conception, but in anteflexion the bend of the uterus deviates less from that which is normal to it. Hence the result, clinically, that when obstinate sickness occurs it is infinitely more likely to

be due to anteflexion than to retroflexion of the gravid organ.

The assertion that flexion of the gravid uterus is generally the cause of the obstinate sickness sometimes observed in pregnancy is one which I need not say can be easily verified or not by examination of cases coming under actual observation. But it is necessary that a caution should be given in accepting any supposed negative results of such examination in particular cases. From what I have heard and seen of professional opinion on the matter it is not generally known or understood that anteflexion of the uterus in the non-gravid state is a common affection, nor is it practically admitted that anteflexion of the gravid uterus is common. In the various text-books on obstetrics anteversion of the gravid uterus is generally not even mentioned as a possible occurrence. This observation does not apply to some of the text-books published on the Continent. One of them, at all events that of M. Cazeaux, alludes to it. I myself was not aware of the possibility of its occurrence until I encountered a case in actual practice, a case which I described at a meeting of this Society and which will be found related in Vol. II, p. 170, of the 'Obstetrical Transactions.' I believed it then, that is, six years ago, to be a very rare disorder, but my observations since that time have convinced me that in a mild form it is very common, and further that it is, as I have already fully stated, in a more severe form associated with obstinate sickness. Looking back to my notes of this first case I find it recorded that obstinate sickness occurred in this instance, although I did not then attach any particular signification to this symptom.

The verification of the fact is, I repeat, easy. The ordinary examination by the finger, if carefully and deliberately performed, will enable the observer to determine the exact shape and outline of the uterus, and this is particularly easy in the second month of pregnancy, when the sickness most generally begins to be troublesome. If the uterus has a decidedly anteflexed shape, that fact must be obvious to the experienced touch under such circumstances. When the patient is lying

down in the ordinary position on the left side, the force of gravity does not act so as to increase the anteflexion, but the contrary. This affects the consideration materially, and allowance must be made for variations produced by position of the body in deciding on the diagnosis. Thus a very decided anteflexion may exist, and yet because the observer does not find the fundus uteri very low down in the forwards direction, the conclusion may erroneously be drawn that there is no anteflexion. The fact is, that the position of the fundus uteri varies during the first two or three months of pregnancy in these anteflexion cases according to the position of the patient. In the erect posture the fundus is low down, pressing on the original roof; when the patient is lying down, on the other hand, the body of the uterus is relatively higher in the pelvis. We see the same phenomenon in the non-gravid state, where the organ may be ascertained to change its position very materially under the influence of gravity, while the *shape* remains unchanged. Further, it cannot fail to strike any one considering the subject that, if the uterus is rendered more pliable, as it is likely to be under the influence of pregnancy, the influence of gravity will, or may have, the effect of intensifying the flexion itself, supposing such flexion to exist. And I have no doubt whatever that, as a matter of fact, the anteflexed gravid uterus at, say, the end of the second month does become more flexed, as well as more anteverted, when the patient is in the erect position.

I believe we may now go a step further in the analysis of this sickness of pregnancy. Admitting, as I believe I have proved, that the cause of the sickness is generally flexion of the organ, how is the sickness traceable to such flexion?

The explanation I have to give of this occurrence is, that the tissues of the uterus, including the nerve ramifications pervading it, are compressed at the seat of the flexion, and that this is the cause of the sickness. Irritation of the os uteri, where nerves are sufficiently numerous, is well known to excite vomiting. Stretching of the os uteri, such as occurs during parturition, is well known to give rise to vomiting. This dilatation of the os uteri has the physical result of

stretching or pressing upon nerve-tissue, and this in the latter instance appears to constitute the irritation. Again, to take the case of the non-gravid flexed uterus, what is the nature of the irritation which sets up the vomiting and nausea sometimes observed? Is it not the compression of the nerves embedded in the uterine tissue at the seat of the flexion? It seems to me that it must be so. It is likely that I may be here met with the statement that this sickness is due to the associated inflammation, and that the flexion has nothing or little to do with it. But this associated inflammation, granting it to be present, is really another of the effects of the flexion, for the same circumstance which gives rise to the pressure on the nerves at the bend of the uterus gives occasion to an obstruction of the circulation in the organ (a condition which I have described under the term "strangulation" of the uterus), and this obstruction is the essence of the physical conditions described as inflammations of the os; certainly it is generally the first and primary cause of such inflammations.

To come back to the gravid uterus, with which we are now more immediately concerned, what holds good in the case of the non-gravid organ will *à fortiori* hold good with the uterus in the gravid state. The tissues are now more vascular, the nervous constituents of the organ are more sensitive, and even according to some authorities, much increased in size. A pressure which would be sufficient to produce sickness apart from pregnancy would be infinitely more likely to act in this way under these altered circumstances.

It is certainly a curious corroborative fact that, under ordinary circumstances, where the sickness is not particularly troublesome, it is observed to occur generally when the patient rises from bed. The taking of the erect posture aggravates and increases the existing tendency of the uterus to fall forwards, the tissues of the uterus at the region of the upper part of the cervix are compressed thereby, and the reflex disturbance is thus produced, resulting in sickness. The mechanical theory then finds itself well supported by this ordinary fact in the natural history of the sickness of pregnancy. I need hardly say that suggestions as to the

treatment of the sickness of pregnancy of a very important character logically follow from this consideration.

The compression of the nerves at the seat of the flexion, a compression increased and intensified by every circumstance increasing the degree of the flexion, is, I believe, the almost universal cause of the sickness of pregnancy. The tissues of the uterus resist expansion—this is the cause assigned by Dr. Tyler Smith in the opinion already quoted. Unquestionably this is the case, but if I am correct in my view, this resistance is not enough, apart from the conjoined flexion of the organ, to account for more than a small number of cases.

I have spoken of flexion as almost universally being the prime factor in the business, and I have studiously used the word "almost." For it must be quite clear that, if the uterus be *from any other cause* more resisting than usual to the expansive process, the nerves may equally undergo such pressure as will lead to sickness. But it is also my belief that the explanation now put forward as to the connection of flexion with the sickness is true in the very extended sense of the word in which I have used it.

I have not yet had an opportunity of examining cases of obstinate sickness in pregnancy after the fourth month. I am not sure how often sickness is noticed in this degree after that period of pregnancy; and I cannot, therefore, pronounce any opinion derived from actual observation as to the state of the uterus under such circumstances. Flexions of the uterus *do* persist under rare circumstances up to a late period of pregnancy. Dr. Oldham in our 'Transactions' recorded a case of delivery at full term of a retroflexed uterus, which is a case in point, though in Dr. Oldham's case there is no mention of sickness. As already stated, severe sickness is rare after the fourth month, by which time a miscarriage occurs, or the flexion which had existed becomes spontaneously cured, and troublesome symptoms of all kinds disappear. There are probably a small number of cases left in which the sickness persists, even when the flexion has been relieved, but on this point I await further information.

Lastly, so far as the pathology of this affection is concerned,

the ordinary cases where the sickness is very slight and hardly calls for medical attention. Under these circumstances the sickness is, in my opinion, due to a temporary, evanescent flexion of the uterus; for it need hardly be said, there are all degrees of flexion, from what is merely a slight anteversion to the retort-shaped uterus.

The cases which have come under my notice, and which have been treated on the principles which obviously suggest themselves from the foregoing conclusions, have by the success of the treatment confirmed the truth and value of these conclusions. By treating the flexion the sickness becomes, in other words, relieved; by maintaining the uterus in a position which will allow of its expansion without compression of the tissues of the cervix, the symptom either entirely disappears or becomes so much mitigated that the trouble is practically at an end. I do not like to appear to overstate the case, but the effect of such treatment has certainly been in many cases quite magical. When, as is most commonly the case, we have to do with an anteflexed uterus, the patient must be made to wear an instrument which I have devised for supporting the uterus from the front termed a "cradle" pessary, or an india-rubber air ball pessary will answer the purpose in some cases; or, as answers the purpose perfectly in a few cases, the patient is made to lie entirely on the back and thus abolish the additional influence of gravity in aggravating the anteflexion.

In cases of retroflexion a very different treatment is required. The oval ring made in various sizes (a modification of the Hodge pessary) is required. The pressure of the upper part of the ring aids the fundus in rising upwards, the flexion is thus diminished, and by-and-bye it disappears.

It is hardly necessary to remark that the application of pressure, by means of pessaries and internal appliances, to the gravid uterus is a matter requiring care, otherwise irritation may be set up and a miscarriage produced. Time will not permit me on this occasion to dwell further on the details of the treatment, but the principle of it is sufficiently obvious.

I do not know how far the reasoning put forward in this paper will commend itself to the minds of the Fellows of this Society; all I can say is, that the facts on which this view as to the cause of sickness in pregnancy has been based have been carefully observed, and that I have been led to the conclusion enunciated simply by the facts which have presented themselves to my notice.

Dr. Barnes observed that there had been many theories advanced as to the cause of the vomiting in pregnancy. Displacement of the uterus, as retroflexion and anteflexion, was an old theory. It was mentioned by Moreau, and Mayer and Ulrich give cases in which anteflexion was the cause. It appeared certain, however, that these, and the cases mentioned by Dr. Hewitt, in which menstrual fluid had been retained in the uterus by flexion, could all be referred to the one general condition—distension of the uterine fibre. He was in a position to state from many precise observations, that flexions of the gravid uterus were often present without any unusual degree of vomiting, and that most obstinate vomiting occurred where there was no flexion. The theory of stretching of the uterine fibre had been most distinctly set forth by the celebrated Bretonneau, of Tours. Many facts concurred in proving its truth. The vomiting during forcible dilatation of the cervix uteri had been mentioned by Dr. Hewitt. He himself had seen many cases, not only in the early months, but also at the fifth, sixth, seventh, and eighth month. In some cases the cause was obviously extreme distension of the uterus under the rapid accumulation of an excess of liquor amnii; in others there was twin-pregnancy. In the non-pregnant, distension of the uterus from any cause would induce vomiting. Thus, McClintock had observed vomiting from an intra-uterine polypus; he himself had observed similar cases. When water was injected into the uterus to induce labour, if the water went to the fundus, and was retained, vomiting ensued. In early pregnancy the dense tissue yielded unreadily before the rapid growth of the ovum. In short, there was only one constant condition, that being stretching of the uterine fibre. Growth that kept pace with the growth of the contents of the uterus did not cause vomiting; but it was caused whenever the fibre was stretched rapidly, the distending contents outrunning the accommodating growth of the uterus. When vomiting had once become excessive, another element entered into the case. The defective nutrition was attended by impoverishment of the blood, and the blood was further degraded by absorption of noxious materials from the

system; hence a double toxæmia. Concurrently with this, the habit of vomiting had induced a morbidly irritable state of the spinal chord, so that it readily responded to the slightest peripheral or emotional excitation. Thus, obstinate vomiting, like chorea, was entertained by an induced irritability of the nervous centres. Vomiting, in fact, now resembled convulsive neuroses.

Dr. Tilt denied that vomiting was any more caused by flexions of the gravid uterus than by displacements of the unimpregnated uterus, and he stated that many of his former patients were now leading active lives, although the womb was considerably out of place. Hence, he concluded that uncomplicated uterine malpositions had no symptoms, and that when sickness occurred in connection with uterine displacements, the sickness was explained by the coexistence of uterine irritation, or congestion, or inflammation, or by some ovarian complication. Dr. Tilt remarked that, in the only case referred to in the paper, the cure was attributed to horizontal rest, a remedy of general use, recommending itself on other grounds than the problematic power to rectify a flexed gravid womb. Dr. Tilt concluded by strongly condemning Dr. G. Hewitt's advice to seek to restrain the sickness of pregnancy by the permanent use of vaginal pessaries, characterising the proposed practice as very likely to lead to most disastrous results.

Dr. Wynn Williams fully agreed with the remarks made by the previous speakers as to the cause of sickness in the early months of pregnancy, namely, that it was due primarily to the distension of the uterus, but thought that it might be aggravated by the unequal distension which would naturally be the case in flexions of the organ. He had at the present time a lady from the country under his care, who consulted him for retroversion. She had aborted once, and had been prematurely confined another time, caused, as she believed, by the puerperal sickness. He introduced a Hodge's pessary. The patient returned home and again became pregnant. A day or two ago she wrote to inquire whether or not the pessary should be removed. She stated that she did not suffer nearly so much from sickness as on the previous occasions. He ordered her not to have the pessary removed until after she had quickened. In the latter months of pregnancy he thought the sickness to be due to an entirely different cause—generally by pressure on the abdominal viscera, more especially the liver.

Dr. Playfair said that the views expressed by so eminent an authority as Dr. Hewitt would naturally carry great weight with the profession, and ought to be very carefully considered by the Society. He confessed to having heard Dr. Hewitt's proposal to apply mechanical supports to the gravid uterus with some alarm, as he feared such treatment, carried out by practitioners of less experience than Dr. Hewitt himself, might give rise to very mischievous results. He could not help thinking that in extending

his favourite theory of the important influence of uterine deviations from the non-pregnant to the pregnant state, the author was in some danger of allowing his hobby to run away with him. There were some points in the natural history of the sickness of pregnancy which Dr. Hewitt had omitted to mention, which seemed to militate strongly against his theory. Dr. Hewitt assumed that sickness was always a morbid phenomena. This, however, is by no means certain. There is a popular belief that miscarriage is more common in women who do not suffer from sickness. Whether this be true or not, he (Dr. Playfair) had frequently noticed that when sickness was entirely absent, other and often more distressing sympathetic irritations, such as fainting, were met with. Indeed, so convinced were some American authors of this, that they had even proposed to induce artificial nausea in such cases by repeated small doses of ipecacuanha. At any rate, he did not doubt that some degree of sickness was a perfectly healthy phenomenon in pregnancy. If, therefore, the absence of sickness was an unnatural and undesirable thing, and if, as Dr. Hewitt held, sickness was always due to flexion, transient or permanent, of the gravid uterus, the logical conclusion was that it was unnatural for a pregnant woman not to have a flexed womb; which was something very like a *reductio ad absurdum*. Again, it was well known that sickness was much more severe, as a rule, in first pregnancies, obviously from the difficulty with which the uterus yielded to distension. Flexions, on the other hand, were most common in multipara, in consequence of the changes in the uterus due to former labours. If Dr. Hewitt's theory was correct, we should have sickness much more common and severe in multipara, which was the reverse of the fact. Then, again, it was by no means so rare for sickness to continue beyond the fourth month, as Dr. Hewitt seemed to think, and then, of course, flexions could but very rarely exist. The important point was, however, the treatment. He cordially agreed with Dr. Hewitt as to the importance of perfect rest in the horizontal position. He (Dr. Playfair) also strongly insisted on this, and he believed it to be the very best means of diminishing the congestion of the uterus, which, as he thought, generally caused excessive sickness. But when Dr. Hewitt proposed to fix the gravid uterus in the early months of pregnancy in cradle pessaries, and similar appliances, he recommended a practice which, in hands less able than his own, might lead to very disastrous results. He greatly feared that if this recommendation was generally adopted by Dr. Hewitt's disciples, they would soon have at their disposal a body of statistical facts which would completely disprove the popular theory previously alluded to—that abortions were most frequent in those cases in which no sickness existed.

Dr. Wiltshire said that he had been requested by his friend

Dr. Buyks, of Wilna, who sat by him, to say that the hypothesis brought forward by Dr. Hewitt had also been propounded by Professor Krassovsky, of St. Petersburg, in a work published last year. For his own part, Dr. Wiltshire thought that although flexion of the gravid uterus might cause vomiting, it was neither the only nor the most constant cause, for he had seen cases in which both anteflexion and retroflexion had occurred during pregnancy without vomiting, and reversely. Stretching of the uterus, as pointed out by Smellie, and as just stated by Dr. Barnes, was doubtless the most efficient cause. As regards treatment, Dr. Wiltshire had found tincture of nux vomica on the whole the most serviceable remedy.

Dr. Snow Beck said he would only trouble the Society with one or two remarks at so late an hour. The opinions expressed were a continuation of similar opinions put forward as to the cause of "the irritable uterus." But at the outset it should be borne in mind that these opinions were not the result of any direct observations on the uterus itself, but were mere fancies of the author, who "did not see how it could be otherwise." As to the imaginary stretching and thinning of the uterine tissue at the seat of the supposed version, the supposed contraction of the blood-vessels and consequent congestion, and the assumed pressure on the nerves consequent upon these imagined changes, he gave all these a direct denial. No such thing took place in nature. The uterine tissue was not stretched or thinned; the vessels anastomose into each other so freely as to prevent any congestion from partial pressure, and the nerves were in no way pressed upon. These being the facts, the imaginary pathology of the author fell to the ground, and the supposed explanation alike of sickness during pregnancy, and of the irritable uterus, existed only in the "did not see how it could be otherwise." It was a pity the author had not the candour to state at once that this statement rested upon no more solid basis than his own fancy. Anteversion and retroversion were by no means uncommon, and were one of the chief causes of sterility in women. Yet every now and then impregnation did occur, and when it did take place sickness was not more frequent than in other cases where no deviation had been present. Much stress had been laid upon anteversion of the pregnant uterus, but he was unable to see anything to prevent the uterus rising in the abdomen in the usual way. In the unimpregnated state it was kept in its forward position by the pressure of the intestines above, which pressure was relieved each time the woman assumed the recumbent position, and there was nothing to prevent the pregnant organ rising in the abdomen. In the few cases of retroversion of the pregnant uterus generating severe symptoms which he had seen, there was not any sickness. But admitting, for the sake of argument, that the

nerves were pressed upon at the seat of bending of the uterus, the nerves which would be pressed were not those concerned in the production of sickness. For it was a matter of everyday experience that it was affection of the fundus of the uterus that was so generally attended with sickness; that it mostly occurred in active congestion of the fundus; where small tumours were seated at that part of the organ; and in early pregnancy, where the fundus was first engaged in the new action. And as to the imagined pressure of the nerves from distension caused by pregnancy, this again has no real existence, except in unusual cases. For, as every one knew, the changes in pregnancy were a growth of the whole organ; that the walls of the uterus grew and increased in size, as well as the ovum in the interior, and there was no distending pressure from within outwards. Thus, all the facts derived from direct observations were at variance with the fancies of the author, and he was convinced that the deviations described have little or nothing to do with the causation of sickness in pregnancy, or the irritable uterus. If this was a correct conclusion, then the treatment indicated was altogether improper.

The PRESIDENT observed that his experience did not coincide with Dr. Graily Hewitt's as to flexion of the uterus being commonly associated with vomiting in pregnancy. In cases of very severe retroflexion to an advanced period he had seen no vomiting; and in the case of Dr. Oldham, and one similar, there was no vomiting. He thought that tension of the uterus was the chief cause, as shown by the immediate relief afforded when the membranes were ruptured; but he certainly thought with the author of the paper, that the retro- and ante-flected condition favoured the pressure. He thought that probably the act of vomiting tended to increase the displacement.

Mr. SCOTT said we must all see frequently cases of both anteflexion and retroflexion of the impregnated uterus, in which no sickness occurs; and as to its being an exciting cause in pregnancy, the severest case Mr. Scott remembered was one in which the sickness continued to between the sixth and seventh month of uterine gestation, and in which, therefore, there could be no question of any flexion of the uterus being a cause. He had frequently seen cases of retroflexion in pregnancy of a severe form without sickness. Mr. Scott was much surprised at one statement in Dr. Hewitt's paper, viz. that pregnancy was rare in cases of retroflexion, but more frequent in anteflexion. From the observation of many years, Mr. Scott had come to an entirely opposite conclusion, viz. that whereas acute anteflexion was an absolute cause of sterility, pregnancy occurred not unfrequently in severe cases of retroflexion.

In reply Dr. GRAILY HEWITT thanked the Society for the criticisms on the paper. It must be evident, on necessary

mechanical principles, that an organ like the uterus could not be acutely bent at the cervix without compression of its tissues on the concave side of the bend, where, he believed, was the chief seat of the irritation. So far for Dr. Beck's criticism. He was not aware that the theory now put forward in this paper had been advanced by any previous author, as Dr. Barnes would seem to imply in his remarks. With Dr. Barnes he believed, and had stated as much, that the distension of the uterus was the cause, but whether it operated by compression of the nerves, or by stretching of the muscular fibres, was a question: he himself believed the former the true explanation. He could say in reply to Dr. Tilt that he had actually carried his own recommendations into practice to their full extent. With reference to Dr. Playfair's fears as to the effects of pessaries in possibly inducing abortion, he was quite alive to the fact, and now recommended caution. The pessary which was safest, and which was adapted to the anteflexion cases, was the globular air-ball pessary. The fact that sickness was most common in primiparæ was quite in conformity with the theory advanced and explainable by it. He did not mean to imply, as Mr. Scott had attributed to him, that anteflexion was not a bar to pregnancy. He believed that in acute anteflexion sterility was almost general, and so in retroflexion; but moderate degrees of anteflexion allowed of the occurrence of pregnancy. As to the general question, he invited the Fellows to examine into the matter, and test it for themselves. It must, however, be recollected that he did not contend that every case of sickness would be found to be a case of flexion, nor would every case of flexion be attended with sickness.

MAY 3RD, 1871.

J. BRAXTON HICKS, M.D., F.R.S., President, in the Chair.

Present—40 Fellows and 6 visitors.

Edward Martin, M.R.C.S. (Weston-super-Mare), was elected a Fellow of the Society.

Mr. PEDLER exhibited a deformed pelvis from a patient who had died of mollities ossium.

He said;—In introducing the following case to the notice of the Obstetrical Society, the extreme interest and great rarity of the disease will, I hope, prove a sufficient excuse for my troubling you with particulars.

The patient whose pelvis I show was for some time an inmate of the West Riding Lunatic Asylum, and it is to the medical superintendent, Dr. J. Crichton Browne, that I am indebted for this interesting specimen of mollities ossium.

The patient, Jane M—, was admitted into the Asylum on 9th of November, 1866, and was then thirty-nine years of age. She was placed under the class Dements, and a note is made soon after her admission that she was thin, had spinal curvature, and that her chest projected. The next notes that are in the case-books describe her as physically much improved, and able to employ herself in light occupation, as knitting.

The note on the 16th August, 1869, is to this effect:

"The chest has grown out, and projects forwards considerably; the upper part of the sternum sinks in, while the upper part of the *body* of the sternum, with the adjacent cartilages of the ribs, projects forwards, making a conical

bulging, about the size of a largish orange. The spine has angular as well as slight lateral curvature. The ribs project behind, and form two large protuberances, one on each side of the distorted spinal column. She complains of the slightest pressure, even her arm seems very painful on being touched, while her chest is so painful that she cannot bear the lightest touch of the stethoscope for examination. The bones of the extremities are not in the least bent, but the legs are so weak that she cannot be made to stand on them, although, when the weight of the body is taken off, she can move them, showing no true paralysis."

She gradually became worse, and died on January 2nd, 1871.

At the post-mortem examination, at which I had the opportunity of being present, the following was found to be the condition:

Rigor mortis not present; general appearance of the body greatly emaciated and much deformed, and the bones much softened. The head is not misshapen, but the chest is much distorted. The head is sunk into the thorax, and the ribs and upper part of sternum project considerably. The clavicles are bent forwards, and the upper opening of the thorax much contracted. The pelvis does not seem to have lost its external shape, nor are the extremities at all distorted.

On opening the chest it was found that the ribs could be cut through with an ordinary scalpel, and the spine was seen to be distorted, having both angular and lateral curvatures. The pelvis, which was removed without any trouble as regards the bones, I will describe more accurately. The viscera were healthy, except the brain, which was considerably wasted, especially in the ganglia at the base, the optic thalamus being very wasted indeed; the substance was tolerably firm.

The pelvis was found to be distorted after the manner of most of the cases; it was beaked in front, from the falling-in of the sides at the acetabulum, and contracted behind, in consequence of the great projection of the sacral vertebræ.

The diameters of the brim in the fresh state were as follows:—At the brim, lateral, four inches at the widest

part, which only consisted of a narrow slit about three and a quarter inches broad on the left side. The greatest antero-posterior diameter, again, only consists of a narrow slit about one inch broad, and about three and three quarters inches long.

A ball whose texture was unyielding, and diameter an inch, could not have been passed through the brim.

The outlet was so contracted that the measurement was antero-posterior, three inches; lateral, three quarters of an inch. Pressure could have increased the last measurement, but I doubt if pressure could have been exerted to any extent at the brim without great danger of rupture of the ligaments, or of the bone itself.

I was so much interested with the condition of the bone, that I procured the projecting part of the sternum, and also the pelvis, which is here this evening. The portion of bone was submitted to a careful chemical analysis by my brother, Mr. Alexander Pedler, F.C.S., with the following result:

A sample of the bone cut into extremely thin sections, and merely exposed to the air for some time, lost, when thoroughly dried at 100° C., 24·74 per cent. of water. The dried sample was then analysed, and found to contain 32·75 per cent. of oily and fatty matters, or 26·49 per cent. of the bone in its original condition.

The diseased bone thus consisted of—

Water	24·74 per cent.
Fatty and oily matters . .	26·49 „
True bone	48·77 „

In order to determine the inorganic matter present in the bone, a sample was taken, washed with water to remove the blood, and then with ether to remove fatty matter, and afterwards thoroughly dried at 100° C.

100 parts of bone thus prepared contained—

76·29 parts of cartilage and other organic matter.
23·71 of inorganic matter, which consists of,—

20·81 parts of calcic phosphate;
·81 parts of magnesic phosphate;
1·61 parts of calcic carbonate.

The percentage composition of the ash would thus be—

Calcic phosphate	87·90
Magnesic phosphate	3·42
Calcic carbonate	6·78

Traces of sulphuric acid, fluorenic, &c.

It will be seen that the inorganic matter is present in the bone in exceedingly small quantities, being only 23·71 per cent. of the true bone, while the usual percentage varies from 60 to 70. This deficiency at once accounts for the peculiar softness of the bone. The composition of the ash does not differ in any remarkable way from the normal state, nor was any uric acid or other abnormal substance found in the original bone.

(Signed) Alexander Pedler, F.C.S.

On looking over the particulars of the case one cannot help being struck by the extreme difficulty such distortion would have caused to the process of delivery. Craniotomy and piecemeal extraction of the fœtus is the only operation *per vias naturales* that could have been thought of to effect the object; but even this would not have been performed by many of our greatest authorities on this subject. Cæsarian section I am afraid would have been necessary.

In looking over the Obstetrical Society's 'Transactions,' I cannot find any discussion on this disease. I hope that the description of this case may be followed by valuable comments on the disease mollities ossium by the leading men of the specialty who are here this evening.

Dr. Protheroe Smith exhibited the uterus and appendages of a patient from whom he had removed the ovarian cyst he had shown at the last meeting of the Society, which presented several hard, white tumours in a state of ulceration on their inner surface. This under the microscope gave the

usual evidence of malignancy. Dr. Snow Beck, however, had doubted it, but Dr. Wilson Fox had confirmed his belief. This discrepancy of opinion resulted from the fact that these two gentlemen had examined different portions of the cyst. He wished to inform the Society of the fatal issue of the case he had recently brought before them because he hoped, in this instance, good would accrue from some observations he was desirous to make on the cause of death. It would be seen that the pedicle and uterus were free from inflammation, yet the patient died from acute peritonitis of the small intestines, which were found inflated, inflamed, and covered with recent lymph. In explanation of this anomalous condition he said that, after tabulating a large number of cases from the published records of Mr. Spencer Wells and others, and on taking a statistical view of such as had terminated unfavorably, he had found a large majority had succumbed in consequence of inflammation, resulting in the formation of lymph or of serum and bloody effusions in the peritoneal cavity. He had also remarked, in a large number of cases operated upon, vomiting of fluid, in excess of that taken, and, if protracted, becoming grumous; or, that hæmoptysis, hæmatemesis and bloody motions, hæmaturia, and albuminuria, not unfrequently take place. Such morbid conditions were, he thought, due, in long-standing cases especially, to an effort to relieve the vascular system, which, in the progress of the ovarian malady (for months, in some cases for years), had contracted the habit of depletion by effusion into the cyst, which was suddenly arrested by ovariotomy. On these grounds he begged to call attention to a previous treatment which, if judiciously practised, he believed would tend materially to obviate the fatal issue of ovariotomy, viz. bloodletting; 1st, as a means of removing cysto-peritonitis when diagnosed before the operation; and, 2ndly, as a prophylactic measure to prevent its occurrence afterwards.

In cases, therefore, exhibiting an inflammatory character or disposition before operation he advised one or two moderate bleedings; and in others of long standing, when not contraindicated, the abstraction of a small quantity of

blood might be sufficient to prevent this inflammatory and hæmorrhagic tendency after ovariotomy. In the few cases he had treated thus the patients had made rapid and good recoveries; in the present instance, in which he had neglected to follow this plan of depletion, his patient died from inflammation of a distant organ, certainly not traumatic, since the wound healed by the first intention, and the uterus, pedicle and adjacent parts showed no evidence of inflammation. He desired to provoke discussion on his proposal to employ venesection prior to ovariotomy with the confident hope that it might tend materially to avert the fatal issue of the operation.

Mr. SQUIRE said that precedent peritonitis need not prevent good recovery after the removal of ovarian tumour, as was shown in a case under his care two years ago. The tumour had existed two and a half years, beginning when the patient was eighteen years old, but only affecting seriously the health during the last six weeks of that time. The first symptoms of peritonitis were noticed in February. These recurred in April, when there was considerable pain and vomiting of altered blood; some blood was also passed by the bowels; the pulse was 140, but the temperature taken in the vagina was only 99·5°. Relief was obtained by the use of opium, but there was a great increase of peritoneal effusion, and on April 18th the abdominal pain was so extreme by evening that paracentesis abdominis was resorted to and ten pints of fluid withdrawn. During the next three days there was again vomiting of blood. The pulse was 130 and the respiration 30 in the minute. It was now found that there was fluid in the right pleural cavity. The temperature was 99 at noon and 99½ at night.

On May 3rd and on May 4th the operation for the extirpation of the tumour by Mr. Spencer Wells was undertaken. The broken-up tumour weighed four pounds, the fluid removed at this time about as much, making altogether nine pints by measure; fourteen sponges were used to empty and clear the abdomen, and pelvic cavity shreds of recent lymph were removed from the peritoneum, which had a bright red, granular aspect. Five days afterwards the wound had closed, and the sutures were removed; the pulse was 120, the respiration 30, the chest nearly clear of fluid, and the bowels acted naturally. On May the 10th the pulse was 100, respiration 24, appetite good, and aspect healthy. Here, though the peritonitis was recent, the febrile state as measured by the thermometer was not high at the time of the

operation. The loss of blood beforehand was of doubtful advantage. Dependence upon the effect of bloodletting before an operation is at least hazardous.

Dr. WILTSHIRE thought that bleeding might in certain selected cases prove beneficial, and related a case of his own which appeared to be confirmatory of Dr. Smith's view.

Dr. BARNES exhibited Mr. de Berdt Hovell's uterine truss for preventing and arresting post-partum hæmorrhage. It has a spring pressing, with a force of about seven pounds, a pad down upon the uterus. It is admirably adapted to support the uterus, and to relieve the practitioner from the fatigue of grasping it. Dr. Barnes had used it with advantage on several occasions. It stimulates to contraction by sustained elastic pressure.

Dr. BARNES communicated the following case of retained fœtus and placenta, the latter for six months after the former had perished, for Mr. Elliott Porter, of Lindfield.

Mrs. ——, æt. about 34, the mother of several children. I saw her in October, 1870, last. She had menstruated irregularly and sparingly, the last time, about six weeks previous to my visit, a very little. She had a slight show when seen and insignificant recurring pains; the discharge and pains never properly left her. The discharge in a short time became offensive and continued so. The uterus when I saw her in October was equal to about the twelfth week of gestation, or rather more.

In December last some fœtal bones were expelled—those represented detached at A. The discharge was still offensive, and pain continued, and bones and portions of bone from time to time came away.

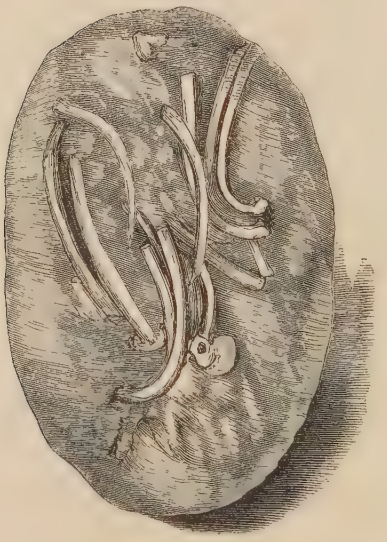
On the 21st of April, 1871, after some hours' severe pain, the placenta and some fœtal bones imbedded in it were expelled (B).

On the 24th the patient brought it to me. The pain and discharge had ceased.

These cases are rare, through sufficiently common to be known; but I cannot say that, in all its detail, I have ever

A.

B



met with the counterpart of this one. At about the third month of gestation the fœtus perished, and the entire ovum, probably minus the liquor amnii, was retained. The fœtus decayed and came away piecemeal, and the placenta, at about what would have been the full period of pregnancy, was expelled perfectly fresh and undecomposed, but in size equal to the period at which the fœtus perished.

CASE OF CÆSAREAN SECTION.

By Henry Gibbons, M.R.C.S., L.M., &c., Wolverhampton.

I was called on January 13th, 1871, to attend Mary Ann Simmonds, who was in labour at nearly full term. She was a dwarf, measuring 3 feet 10 inches in height, and proportionately small, aged 22 years. The labour had commenced about five hours; pains were occurring about every five minutes. On careful examination the pelvis was found so small at the brim that only one finger at a time could be passed through it. Seeing the impossibility of delivery by the natural passages I asked Messrs. Pope and Bunch to see the case, who arrived at the same conclusion, and who kindly assisted at the operation. Consequently, the lying-in ward was prepared and the air made warm by a good fire. Chloroform having been given I performed the operation by the usual external incision; the opening made in the uterus was about six inches long, situated in the middle towards the fundus; no great amount of bleeding ensued, no great sinus was divided, nor was the placenta presenting. The membranes having been ruptured the fœtus was withdrawn by the legs first, after which the placenta, which was found attached to the posterior wall, was peeled off without much bleeding. The uterus contracted rapidly under the eye, and its wound was thereby closed. No sutures were employed to this part.

The external wound was closed by sutures in the usual way and supported by a bandage. In about an hour a full dose of opium was administered. Uncontrollable vomiting commenced soon after, and continued with scarcely any intermission till she sank, the morning of the 15th January, or about forty hours after the operation.

The examination of the body showed neither extravasation into the peritoneum nor any peritonitis. The child lived nine days.

Measurement of Pelvis.

Antero-posterior internal . . .	$1\frac{3}{4}$ inches
Transverse internal . . .	4·1 „
From lateral loops of brim to promontory of sacrum	$1\frac{3}{4}$ „
Between anterior supra-spinous process	8 „
„ crista ilia . . .	8 „

CASE OF VIABILITY IN A CHILD BORN AT FIVE AND A HALF MONTHS.

By C. H. F. Routh, M.D.

Mrs. F—, æt. 38, married. Has had twelve conceptions, nine children, and three miscarriages. The last child was premature. Her husband was away and returned 9th October, 1869. Last appearance of catamenia December 26th, 1869. Did not see her husband again till the 3rd or 4th January. Date of quickening not observed. A child was born June 8th, 1870, when she was delivered by a midwife, Mrs. Walker. During gestation was much frightened one night by a rat. She did not observe any membranæ pupillares at birth, only the child was very small and weakly, having to be kept warm in wool. Its exact weight was not taken. The testicles have not descended into the scrotum. Duration of pregnancy twenty-two weeks and two

days, or five lunar months and sixteen days. The child died on the 25th June, having lived eighteen days, with symptoms of atrophy.

The parents were extremely poor, and the woman a pitiable-looking object. Their character, however, was so far as I could learn, excellent. There was no reason whatever for suspecting infidelity in the woman.

It has been remarked, in the few exceptional cases where viable children have been born prior to seven months, that they are unusually developed for the age of intrauterine life which they are supposed to have attained.

Among the records of science one child at four months was born living; another at four and a half is reported by Maisonneuve, where respiration continued for about six hours. One child born at five months was reported by Mr. Smyth to have lived twelve hours. Another child at five and a half months lived between three and four hours. Ruttel mentions one born at five months which lived twenty-four hours. If the history of this case is correct it proves that a child born at five and a half months may live eighteen days.

ON TETANUS AFTER ABORTION.

By Alfred Wiltshire, M.D., M.R.C.P. Lond.,
PHYSICIAN FOR DISEASES OF WOMEN TO THE WEST LONDON HOSPITAL; PHYSICIAN TO THE BRITISH LYING-IN HOSPITAL AND TO THE SAMARITAN HOSPITAL FOR WOMEN AND CHILDREN; LATE MEDICAL INSPECTOR TO H.M. PRIVY COUNCIL.

Tetanus following lesions of the uterus is rare. According to statistics it appears to be most rare in the unimpregnated state, less rare after abortion, and least so after delivery, at or near the full period of gestation. The following remarks upon that form of obstetric tetanus which may follow abortion are based on two cases, one of which I saw during life, the other after death.

The first case was that of a lady who, while her husband

was abroad, became pregnant illegitimately. It is supposed that abortion was criminally induced by instruments at an early period of gestation. After the lapse of a few days symptoms of tetanus set in, which proved speedily fatal. At the post-mortem examination which, at the request of Dr. Graily Hewitt, I made in conjunction with my lamented friend the late Mr. Alexander Bruce, we found some evidence of bruising and slight laceration of the os and cervix uteri, which might possibly have been caused by the legitimate attempts made to remove the placenta, a portion of which, about the size of a horse bean, was adherent to the fundus uteri. This comprised all that was noteworthy about the generative organs. The spinal cord was removed for examination, but, owing to the death of Mr. Bruce, I never knew the result.

The other case I saw during life, in consultation with the medical men in attendance. This patient, who resided in Yorkshire, was the wife of one medical man and sister of another. I learnt that for some time she had been separated from her husband, but that during a reconciliation she fell pregnant. She was soon, however, again deserted under circumstances of peculiar aggravation and cruelty. The effect of the sudden mental distress under which she consequently laboured was to induce abortion at an early period of pregnancy. Everything went on well for the first few days, until the setting-in of tetanic symptoms, which assumed a paroxysmal or hydrophobic form. I saw the lady just a week after the abortion occurred. She was calm and collected, but had trismus, and was of a leaden hue.

Shortly after my arrival, while attempting to drink, she had a terrible paroxysm, during which she became opisthotonic. Until the body became rigid the contortions were very severe. The ghastly leaden hue of the face deepened, and suffocation seemed imminent, when, gradually, the rigidity of most of the muscles ceased, and the patient was again quiescent. The treatment had consisted mainly in the administration of chloroform and opium. A vaginal examination had been made, but no measures had been taken for

clearing the uterus of any retained tissues, and when I saw the patient it was scarcely possible to do so, owing to the very prostrate condition in which I found her. I advised the free administration of chloroform to be continued, atropine to be injected subcutaneously, and the strength to be supported by nutritive enemata.

A most unfavorable prognosis was given, and, unhappily, verified a few hours later, before atropine could be procured.

In both cases there was great mental depression—in one instance arising from shame and fear, and in the other from cruel desertion.

The brain had been for long overwrought by emotions which produce exhaustion. Though lacerations of tissue—*peripheral* physical changes—are justly regarded as most important factors in the production of tetanus, functional disturbances of the cerebro-spinal centre ought to be studied in conjunction with them, chiefly for these reasons:

(1.) Tetanus is a disorder of the central nervous system. The excessive evolution of nerve-force proceeds from the spinal cord. The functions of the several parts of the cerebro-spinal centre are inter-dependent; in tetanus they are greatly disturbed. This disturbance may not in the first place originate in the direct action of peripheral irritation on the spinal cord, but *may* be determined by concurrent mental perturbation. The disordered innervation of the spinal cord may have a *cerebral* as well as a peripheral cause.

(2.) Inasmuch as apparently the *same* peripheral causes may exist in those who suffer from tetanus and those who do not, it does not seem unreasonable to seek for some explanation of this difference in the nervous centres themselves, and mental or emotional disturbances may afford this explanation.

(3.) The lesions which have hitherto been discovered in the cerebro-spinal axis in cases of tetanus have been apparently so insignificant compared with the enormous disturbance of the evolution of nerve-force into the voluntary muscular apparatus which constitutes this disease, as to induce many observers to regard it as a mere *functional*

derangement of the nerve-centres, maintained only by the peripheral irritation. Though recent pathological observations, and notably those of Clifford Allbutt, Lockhart Clarke, and Dickinson, are thought by some to disprove this opinion, we have yet to learn whether those structural changes which have been discovered in the spinal cord should be regarded as mere *products* or *accompaniments* of disordered innervation, rather than as pathological causes of it. This position is somewhat supported by the assertion of Dr. Lockhart Clarke that the lesions are either not present, or are present only in those cases of tetanus which recover. In the absence of facts proving the existence of such lesions in the early stage of the disease, we must regard it as primarily a functional disorder of the central nervous system.

As such, mental or emotional disturbances may therefore be intimately connected with the causation of it. I cannot of course attempt to establish this position on the slender basis of fact afforded by two cases only, but it does appear to me supported by these considerations:

1. Mental perturbation occurring during the course of tetanus is very apt to induce paroxysms of clonic rigidity: a fact which clearly shows the close connection between disturbances of the cerebrum and those of the spinal centre. Any form of mental excitement or disturbance is apt to induce a severe fit of spasm. So generally recognised is this fact, that it has become a most important principle of treatment to secure for the patient as much as possible quietude of the mind—one principal channel of excitors of the already too sensitive spinal centre being the cerebrum. While, therefore, we attempt to reduce the excitability of the spinal cord by powerful medicinal means, we remove, as far as can be, mental stimuli, or even shut them out entirely, by impairing consciousness by chloroform and opium.

If cerebral operations—more especially emotional disturbances—are, during the course of the disease, powerful excitors of the paroxysms, we may fairly assume that they may play an important part in the production of the disease.

2. The symptoms of tetanus may disappear, but may, on

the occurrence of mental excitement—the only obvious cause —return, and then prove fatal.

The following, illustrative of this position, is one of the seven cases of tetanus after abortion, recorded by the late Sir James Simpson, in a paper on "Tetanus following lesions of the Uterus, Abortion, and Parturition," published in the 'Edin. Med. Journal,' February, 1854.

A married woman, aged 40, mother of seven children, aborted in the third month of pregnancy in consequence of sudden mental agitation. She went on well for several days. "Some clots passed from the vagina on the eleventh day, and next day, while about to chastise a child, she was seized with locked jaw, succeeded by a sense of suffocation in the throat, and two days after by tetanic spasms and cramps in the muscles of the neck and back, and by acute shooting pains in the articulation of the lower jaw." Improvement took place under calomel, croton oil, and opium to such an extent that the tetanic spasms ceased. "But during the sixth day after the commencement of the tetanus she was again excited, and, in consequence, was seized with general rigidity of the muscles of the body." She died next day.

If the symptoms of tetanus, which had disappeared, be revived by mental or emotional disturbances without the presence of other exciting causes, we may fairly argue they may at least predispose to the occurrence of tetanus.

3. The intimate connection between the functions of the uterus and those of the cerebrum go far to explain why, in uterine tetanus, certain states of the uterus—supplied, though it be, almost exclusively, by the sympathetic system—may induce this disease under the predisposing influence of depressing emotions.

The influence exerted by the uterus on mental phenomena is well known. If, superadded to it, the brain is greatly oppressed and exhausted by ever-present and powerfully depressing emotion, a condition favorable to the occurrence of tetanus may thus be induced: exhaustion of the cerebrum permitting an over-action of the spinal centre. The cerebral predisposing causes of tetanus may, in consequence of the

sympathetic relations between the brain and uterus, have greater power in producing the uterine than the ordinary form of the disease.

Tetanus is more apt to occur when the uterus is functionally active, as at the periods of menstruation, parturition, and abortion, when the brain is more than usually alive to impressions from it, and when it is more than usually liable to tissue changes.

In the unimpregnated state it is very rare. Sir James Simpson only met with one case in his very large practice.

I have observed a few cases presenting symptoms resembling those classed by Trousseau under the term "Tetany," in which mental anxiety was a prominent feature: examples of what may be termed uterine tetany. It is possible the presence of lesions of the uterus might, in such cases, have determined the occurrence of acute tetanus of a fatal character.

In a case of placenta prævia in a middle-aged woman, mother of several children, there was considerable muscular rigidity, which did not entirely disappear under chloroform, and, occasionally, twitchings and startings. The patient was delivered of a dead fœtus, and remained dull and careless of passing events, and in a state of semi-rigidity, until the next day, but ultimately made a good recovery. Five days previously she had a severe mental shock in the narrow escape of a son from drowning. Amid many pathological conditions it is difficult to fix correctly on one which may have most contributed to a specific result. In this case the severe mental strain probably determined the semi-tetanic state; but it is hazardous to venture too positive an opinion.

In giving prominence to predisposing or even exciting mental or centric causes, I am far from ignoring the importance of peripheral causes of tetanus. In the uterine form of the disease local treatment is somewhat perplexing. If a piece of placenta is retained within the uterus, should we make cautious attempts to remove it or not? Which way we attempt to decide this question we are met by difficulties. If allowed to remain, the foreign body may keep up the tetanic symptoms in two ways:

1. By virtue of its mere presence.

2. By its supplying conditions favorable to the generation of an animal poison possessing effects analogous to those of strychnia—an opinion entertained by many eminent pathologists. If attempts be made to remove it, the most cautious and skilful may fail to clear out the uterus; or this organ may be lacerated or irritated; or its tissues may be involved to such an extent as to maintain the tetanic symptoms, notwithstanding the removal of the apparently offending body. Then, again, the division of nerves proceeding from the injured part in traumatic tetanus has so often failed as to discourage further attempts in this direction. By a parity of reasoning this would seem to counsel non-interference with the uterus, as it would appear that tetanus, when once properly established, is apt to develop and prove fatal, notwithstanding the removal of the original exciting cause. This question is so nicely and evenly balanced that its solution must be left to individual experience and judgment; and unless the case is treated in the earliest stage, and any foreign body within the uterus may be removed without difficulty or injury to this organ, it appears wise to follow the dictum of Sir James Simpson :—"No kind of local treatment could be well applied, or would probably be of any avail if applied." The experience of the Fellows on this point would be most acceptable.

In conclusion, I would advert to the remarkable silence of books upon this subject. I have looked into many works, only to find no reference whatever to obstetric tetanus.[1] The text-books on medical jurisprudence are singularly reticent; neither Taylor, Guy, nor Norman-Chevers make any mention of it; and it is so with text-books and treatises on general medicine and surgery. Dr. Druitt is the noteworthy exception, and he only mentions two cases: one following menorrhagia, the other an abortion.

It is said that tetanus is more common in dark-skinned

[1] Since the above was written I have met with a very able account of puerperal tetanus in the second part of Hervieux's 'Traité Clinique et Pratique des Maladies Puérperales.'

races than in whites, and also that obstetric tetanus is much more frequently observed in coloured females than in their fairer sisters.

Dr. Tyler Smith quotes a case, related by Dupuytren, of a woman who, in spite of traumatic tetanus, which happened during her pregnancy, did not abort.

In thus briefly giving my impressions concerning tetanus, or, more particularly, of uterine tetanus (a disease of comparatively rare occurrence), I am sensible of many shortcomings, and must ask for the kind indulgence of the Fellows.

Dr. Playfair said that he fancied the rarity of tetanus after labour and abortion was chiefly a climatic question, and that he doubted its being proportionally more rare than after surgical operations. In countries in which tetanus was common it was far from a rare event, and he had seen many cases in the Lying-in Hospital in Calcutta, even when there was nothing otherwise abnormal about the patient which would favour its occurrence.

Dr. Wiltshire, in reply, said that he was aware of the proneness of dark-skinned races to tetanus, and he had alluded to it in his paper. He wished to elicit the opinion of the Fellows as to the best method of local treatment in cases of this kind brought under the notice of the Society, which, though rare, were serious and demanded much care.

ON PELVIC HÆMATOCELE, WITH SPECIAL REFERENCE TO ITS DIAGNOSIS AND TREATMENT.

By Alfred Meadows, M.D., M.R.C.P.,

PHYSICIAN TO THE HOSPITAL FOR WOMEN AND TO THE GENERAL LYING-IN HOSPITAL; HONORARY FELLOW OF THE OBSTETRICAL SOCIETY OF BERLIN.

In the preface which I wrote as translator and editor of the work of MM. Bernutz and Goupil, published by the New Sydenham Society five years ago, I stated that, from my own observation, I was satisfied that pelvic hæmatocele though not common is certainly by no means so rare an affection or

symptom as is generally supposed, nor, in many cases, is the diagnosis a matter of much difficulty. I further expressed the opinion that the careful study of the history of those affections which eventuate in hæmatocele, as well as of the coincident symptoms, is of more value in diagnosis than even vaginal examination. Subsequent experience has confirmed my opinion in both these particulars. At the same time, though I believe in the greater frequency of this affection, and am, therefore, surprised that so great an authority as Dr. West should only have met with four cases, yet, on the other hand, I am if anything still more surprised to find that an authority certainly not less distinguished, one whose name is as familiar as household words wherever the science of obstetrics is recognised—I allude to Dr. Barnes—has in a recent publication detailed the particulars of no less than fifty-three cases of intra-peritoneal hæmorrhage, which occurred in his practice within the last ten years. It is true that, on analysing these fifty-three cases, I find that four of them originated in rupture of the uterus during parturition, and that, therefore, for all practical purposes they may be excluded from present consideration, inasmuch as they have little or no reference to the subject of this paper; and that, besides these four, there are five others in which extra-uterine gestation was proved to exist by post-mortem examination, and three in which it was supposed to be present, though the fact was not demonstrated because the patients recovered; still, even deducting these, we have a total of forty-one cases, twenty-seven of which were connected in some way with disordered menstruation, eight were associated with abortion, four originated in ovarian disease, and two arose from injury.

These figures are, I venture to say, sufficiently startling to warrant, nay, to compel examination, and I am sure Dr. Barnes is the last man to wish to stifle inquiry, or to complain if I venture to challenge the accuracy of the diagnosis of some of these cases. The position which he holds as a teacher of gynæcology, not in England only but in Europe, naturally and rightly adds weight to everything that he writes,

but this only makes it the more important that, in the case of an affection like that of pelvic hæmatocele, about which at present such differences of opinion exist, both as regards its frequency, its origin, diagnosis, and treatment, the authority of his name should not be given to sanction diagnoses which, as the cases are reported, must I think challenge criticism, and will be, I believe, by many, as I frankly own they have been by me, received with extreme credulity. We all know very well how in the collection of statistical records cases are added up with little or no reference to their merits, and how conclusions are sought to be established by a mere enumeration of figures. In matters of therapeutics this is a question of serious import, and it is for this reason especially that I thus refer to the paper of Dr. Barnes, published in the last number of 'St. Thomas's Hospital Reports,' because I fear that the cases which he has there recorded may hereafter be made use of for statistical purposes in a way which I feel sure he would not himself approve, and that thus what he most desires, namely, the advancement of gynæcological science, would be rather hindered than otherwise.

I am encouraged the more to make these remarks because, in his concluding observations Dr. Barnes writes, "Some of the cases narrated are, no doubt, open to criticism as to correctness of diagnosis. In some instances the diagnosis was drawn from the history and general symptoms, and was not established by local exploration." Under these circumstances I think it would have been better if some doubt were expressed as to the exact nature of the case, or if some alternative diagnosis had been set forth as likely to reconcile the doubts which must arise in the minds of many who read these cases. On the contrary, though a doubt is in some instances expressed in regard to the source whence the blood may have come from, none whatever is stated or implied as to the occurrence of such hæmorrhage into the peritoneal cavity. Consequently, these forty-one cases, to which may, perhaps, be added the three cases of supposed extra-uterine gestation in which as the patients happily recovered the diagnosis was not made absolute by post-mortem examina-

tion, may hereafter be classed with undoubted cases of pelvic hæmatocele, and deductions therefrom be drawn which the facts would not warrant. In one sense, perhaps, it would matter but little if a mistake in diagnosis were made by future observers, provided they were content to follow not only Dr. Barnes's method of diagnosis, but still more his method of treatment, which might almost be summed up in the words "rest and be thankful." There is sound sense in such advice, and no exception can possibly be taken in my judgment to Dr. Barnes's management of the cases he has recorded; the great majority of them recovered, and after all that is the best commentary on the value of the treatment, though it proves nothing as regards diagnosis; and of those that died I do not believe that their lives could have been saved by any process of human ingenuity.

I have stated that the great majority of Dr. Barnes's cases recovered. I find, in fact, that of the entire series of fifty-three cases sixteen only died and thirty-seven recovered. But the sixteen which died include the four cases of rupture of the uterus during parturition, which as we know is almost always fatal; it includes also five cases of extra-uterine gestation with rupture of the cysts, which is scarcely less fatal than the former; and four cases of rupture of diseased ovaries in which the latter had attained considerable size. Thus there were only three fatal cases among the remaining forty cases, and I venture to say that even with this result the success which Dr. Barnes achieved cannot be equalled by any number of cases collected from sources with which I at least am acquainted. Further analysis, however, brings out a still more startling result, for of these three fatal cases "one died rapidly three months afterwards under symptoms ascribed to malignant disease of the stomach;" another recovered from the immediate effects of the hæmatocele, but was shortly afterwards operated upon for ovarian dropsy and died; while the remaining fatal case is the only one which is left to represent the death rate of forty cases of hæmatocele, and even in that one the diagnosis was considered extremely doubtful. Such a result, I repeat, cannot but excite surprise,

and even suspicion, for I suppose that most of us have hitherto been taught to regard this accident, if I may so call it, as of a somewhat formidable character, but if these forty cases are really true cases of hæmatocele, and fair illustrations of the average run of such cases, then assuredly we must change our notions with regard to this affection; we need have very little anxiety respecting the prognosis, and none whatever about treatment, provided only that we have the courage to do nothing but enjoin rest, and give opiates, for then we may reasonably hope for a mortality not exceeding one in forty.

My experience, however, is so entirely opposed to this, and such knowledge as I have of the subject, derived from various authors who are usually regarded as authorities in this matter, differs so widely from the impressions suggested by reading the paper referred to, that I am induced to bring the matter thus prominently before this Society, than which I know of none better fitted to discuss the question, in order that, by eliciting the opinions and experiences of the Fellows, we may know whether or not pelvic hæmatocele is a condition really alarming, and whether we are called upon or are justified in conducting the treatment in what I may call the expectant method. It may be—I certainly would not venture to declare it is not—that I have been very unfortunate in my cases, that more serious ones have fallen to my lot than is usual, and that my treatment has been faulty. All I can say is that I have not had such success as Dr. Barnes can lay claim to, but, on the other hand, I have not been more unsuccessful than other authorities I could name; and I shall presently refer to some statistics on this point, which, as will appear, have at least this merit, that on the matter of diagnosis they are beyond all doubt, because the fact of the hæmatocele was demonstrated either during life or after death. In very many of Dr. Barnes's cases this demonstration was altogether wanting. In forty cases, as I have said, there was no post-mortem demonstration because the patients recovered, neither was there any actual demonstration during life, such as was afforded by the cases to

which I shall presently refer. Still there can be no doubt, I think, about the existence of a hæmatocele in some of the cases, but I confess the following history, which I copy as reported, does not satisfy me as to the correctness of the diagnosis. It is headed—

"Case 28.—*Menstrual retention at onset of function, and hæmatocele; recovery.*

On the 11th July, 1863, I met Dr. Buss in the case of a girl, æt. 13, who had not menstruated. For some days she had suffered acute pelvic and abdominal pain; fever; rapid pulse. Leeches had been applied to abdomen; calomel and opium. I saw her at night; intense fever; countenance expressive of intense pain; draws her legs up; the abdomen, especially near the pelvis, very tender on pressure, not much swollen; the finger passes the hymen; cervix felt with difficulty; full examination prevented by the acute pain. Under rest and sedatives she recovered."

Now, it may be that, when Dr. Barnes saw this case, there were other symptoms which are not recorded here, but which might carry conviction to his mind as to the diagnosis arrived at: if so, I think it is a pity they were not stated, because as the case stands I am sure few can be satisfied with it; and if there were no more evidence of hæmatocele than is here reported, I think it is only misleading to class it in that category, for the certain result will be that cases which are not hæmatocele will be so regarded, and the treatment which is applicable to the one will be prejudicial to the other.

Here is another case of a similar kind, to which I take the same exception.

"Case 31.—*Menstrual difficulty from narrow os uteri; retro-uterine hæmatocele.*

On the 11th January, 1869, I saw, in consultation, a lady who had been married twenty years without being pregnant. She was taken rather suddenly ill with acute pain in the pelvis and prostration fourteen days ago. Signs of peritonitis fol-

lowed. I found the uterus fixed, the os small, and a firm mass behind the uterus. The recent symptoms had subsided. She got well."

Dr. Barnes then remarks upon this case, "Here, probably, blood had been poured out from the ovaries or Fallopian tubes from impeded menstruation, the two factors being the narrow os uteri and sudden congestion."

But surely something more is needed to complete the diagnosis of hæmatocele than is here recorded? if not, then the matter is indeed a very simple one, for, granted a rather sudden and sharp attack of pain in or about the pelvis, the existence of inflammatory symptoms, and the presence of a mass behind the uterus, though even this was wanting in Case 28, and you have apparently sufficient to warrant such a diagnosis. If this be so, then I have hitherto been needlessly particular.

One of the first points which, I think, it is very important to determine in reference to hæmatocele is, as to what cases shall be so described? What, in fact, are we to understand by the term "pelvic hæmatocele?" Is it to include all cases of blood effusion into the pelvis, whether intra- or extra-peritoneal? whether within the serous sac, or in the cellular tissue outside it? For my own part, I think it is far better that we should try to distinguish between these two. The attempt will at least encourage careful diagnosis; and not only that, but the two cases are really so different in the results, as well as in their origin, and may require such different management, that on practical as well as on theoretical grounds the distinction appears to me important, and to possess many advantages. Moreover, by adopting this division, we shall, I believe, be following the practice of the best surgical authorities, in regard to blood effusions into the testis, and what they have found a useful distinction we, I think, shall also. All cases, therefore, in which the blood is effused beneath or without the peritoneum into the cellular tissue should be grouped as cases of *thrombus;* while those cases only in which the hæmorrhage, be it great or small, takes place into the serous cavity of the peritoneum,

should, as in the case of hæmorrhage into the tunica vaginalis testis, be classed under the head of hæmatocele. One very important point of distinction between these two conditions in reference to the female is in regard to size, for although some writers speak of the peritoneum being stripped up by the extravasated blood, so as to form a really large tumour plainly distinguishable in the abdomen, I must confess that I have grave doubts as to the possibility of such an occurrence, nor can I find a single well-authenticated case of this kind. It appears to me that there are anatomical objections to such a view, and I believe, therefore, that all cases of the kind I am describing, in which the tumour attains such a size as to be felt above the pelvic brim may with certainty be diagnosed as true hæmatoceles, that is, as cases of hæmorrhage into the peritoneal cavity of the pelvis. At the same time it must not be supposed that pelvic hæmatoceles are always of this magnitude; on the contrary, the hæmorrhage may be slight, and the swelling, therefore, of such limited extent as only to be made out by a careful vaginal examination. These are the cases which really offer great difficulty in diagnosis, and there is probably no absolute guide by which to distinguish them from other pelvic swellings, though I shall presently point out some one or two features which have at least a certain diagnostic value.

It will not be possible for me within the limits of this paper to take in the whole subject of pelvic hæmatocele, and although some of the most interesting problems in pathology and questions of the first importance in gynæcology are intimately associated with this affection, especially with reference to its causation, I am compelled to pass them by in order that, with a view to making the paper as practical as possible, I may consider at greater length, though still very imperfectly, the more important questions of diagnosis and treatment.

But first I will relate briefly two cases which have occurred among others in my own practice, and which, I think, may be taken as fairly typical of the more severe forms of the affection. They will serve, moreover, to illustrate the chief

points of diagnosis, while the treatment which I adopted has, perhaps, equally strong opponents and advocates, and is therefore, I hope, calculated to elicit an interesting and instructive discussion.

Case 1.—Mrs. D—, æt. 33, married eight years, but without any family, and has never been pregnant. The catamenia have usually been very regular, moderate in quantity, lasting about four or five days, and generally with a certain amount of pain and uneasiness, though never very severe. On the 8th of November, 1869, the catamenia came on as usual at proper time. The day following she took cold by exposure to wet, and sat in her wet clothes during a service in Westminster Abbey, the weather at the same time being very cold. Immediately upon this the menstrual discharge ceased, and she was seized with severe pain across the lower part of the body, extending through to the back. She thought the pain was due to spasm or cramp, and in order to promote a return of the discharge she had a warm bath and some hot gin and water; no good result, however, followed, and between the 9th and 23rd of November the pain continued with varying intensity, but generally became worse every evening about 8 or 9 o'clock, and was always of a distinctly spasmodic or intermittent character.

On the 23rd she became worse, and then, for the first time, sought advice. She was told it was only a cold, and hot bran bags were ordered to be applied to the stomach, and some aperient medicine with ether was given. This for a time gave relief, but she was still unable to leave the house, though not as yet obliged to remain in bed.

On the 27th the catamenia came on again, but the discharge was still very scanty, and lasted only for two days, during which time the pain became quite excruciating, and she now observed that the abdomen began to swell. In the course of two or three days the increased size was very great, and the pain was, if possible, worse than ever; she got no relief from anything that she took. Shortly after this the

bowels became confined, and though she took some strong purgative medicine nothing passed from her. This state of things continued steadily on the increase, so that when I saw her in consultation on the 10th of December the condition was as follows:—She was lying on the back with the legs drawn up, countenance expressive of great anxiety, lips and tongue covered with dry sordes, skin yellowish grey, hot and dry; P. 132, R. 32, Temp. 103·4. Pain and tenderness all over abdomen, but most severe at the lower part, very great distension, slight tympanitis at the upper part. The lower part was dull on percussion, and had a boggy brawny kind of feel arising partly from the accumulation of fæcal matter, but chiefly from a mass which seemed to rise out of the pelvis to midway between the umbilicus and pubis. Per vaginam the uterus was found close to the symphysis pubis, the posterior half of the pelvis being occupied by a mass which bulged somewhat into the vagina, and extended across the pelvis from side to side. This was felt to be continuous with the mass felt outside, and there was between the two an indistinct sense of fluctuation. The parts were extremely tender. The cervix somewhat short, conical, and small, the os small and circular, the uterine sound was not used.

The diagnosis arrived at was *pelvic hæmatocele*, and as the chief present difficulty seemed due to the confined state of the bowels, which had not been relieved for six days, my attention was first directed to that, and purgatives of various kinds were ordered both by the mouth and by enemata, but all to no purpose. I saw her again three days afterwards; she was decidedly worse, there had been no relief from the bowels; she had hiccough, obstinate vomiting, and the abdomen was enormously distended. Finding that the bowel was obstructed by the pelvic swelling, I determined to tap it per vaginam. I did so with a curved trocar, but to my surprise no fluid came, and it seemed as if my diagnosis was wrong. A long tube was now passed up into the colon and strong enemata with aloes, turpentine and gruel were thrown up. These, however, only added to the difficulty, for not a drop

was returned. The patient was now rapidly getting *in extremis;* stercoraceous vomiting set in; she was deeply jaundiced, extremely emaciated as regards the limbs, but the abdomen enormous, the skin there being very tense, shining and apparently about to burst. I now determined to tap again, and this time per rectum, the trocar being thrust in for fully one inch and a half; the result was that about a pint and a half of the most horribly offensive bloody fluid came rushing from the canula. The diagnosis was therefore abundantly clear.

This occurred on the 28th of December, the bowels then having been confined twenty-four days. Some relief followed this operation, but still no action of the bowels occurred, and there was yet a good deal of swelling occupying the posterior half of the pelvis and pressing upon the rectum. Accordingly, on the following day, I again tapped it *per rectum,* and this time eighteen ounces more of the same kind of bloody offensive fluid came away. The relief which followed was very marked, for, a few hours after, an enormous evacuation from the bowel occurred. Her progress after this was, with occasional drawbacks, very satisfactory; it was some time before the abdominal symptoms quite subsided, for there was great difficulty in getting the bowels to act. For several days a dirty, offensive, sanguineous discharge from the bowel occurred, and before convalescence was fully established she had a smart attack of phlegmasia dolens, which seemed clearly due to the absorption of some of the fœtid blood from the sac. Ultimately, however, the recovery was complete, and three months afterwards the catamenia returned naturally; from that time to the present all has gone on well. Three or four months after the attack a most careful examination failed to discover any trace of the former mischief. The uterus was normal in size, movable in the pelvis, and without any deposit in either cul-de-sac.

Case 2.—The second case which I wish to refer to resembles the foregoing in many respects, but differs in regard to its origin, and to the conclusions which may be drawn from

the history as to the character of the lesion whence the hæmorrhage came.

C. J—, æt. 30, married four years, and has had two children, the youngest being fifteen months old; catamenia fortnightly, but not otherwise excessive. Nine months ago she had a fall and ever since has suffered from pain in the back and left side. Three months ago, having gone to bed in her usual health, she was aroused in her sleep by a most violent attack of pain all over the lower part of the stomach and back. For some days previously she had not felt well, and was complaining of increased pain in and about the pelvic region. Menstruation was nearly due at the time, and she thought the pain might be due to that. She could give no explanation of the cause of the attack in the night; her husband was with her at the time, but sexual intercourse had not occurred for three days previously. The pain was extremely severe, and the doctor who attended her at the time thought an abscess was forming, as he could feel a lump behind the uterus. In a few days the stomach swelled greatly, and over its lower part it was very tender and hard. At the end of a fortnight she got up for a short time, but this brought on such an aggravation of her suffering that she was obliged to go to bed again, and had continued in bed up to the time of her admission into the hospital on February 21st, 1871. During the few weeks preceding her admission she had had several very distinct attacks of shivering. About a month after the illness began a sanguineous discharge came on, and had continued more or less constantly ever since, being at times much greater in amount than at her ordinary menstrual periods. From the first there had been constipation, and defæcation was attended with a good deal of pain. Micturition at first painful, not so severe but very frequent.

On examination the abdomen was slightly distended, and tender on pressure all over the lower part. Percussion resonant, except over the lower part, where a mass was felt rising out of the true pelvis, not involving the iliac fossæ, but rising on the left side nearly to a level with the umbilicus, and on the right side to about midway between the umbilicus

and pubis, the swelling being clearly defined, fixed, and rounded above. Per vaginam the uterus was found to be anteverted, and situate somewhat to the right side; it was fixed in a mass which occupied the whole of the left half of the pelvis, and nearly the whole of the hollow of the sacrum, the right side being comparatively free. The mass was tense, elastic, and gave a somewhat indistinct sense of fluctuation, which seemed more apparent *per rectum*. On introducing the bladder sound, that viscus was found to cover the whole vaginal aspect of the mass, and it was noted that fluctuation was much more distinct when the bladder was full, though it held but very little.

The diagnosis arrived at was, pelvic hæmatocele originally, with probable subsequent suppuration, the latter opinion being based upon the fact of the repeated and distinct rigors.

From February 21st to March 16th the case was watched closely. No diminution occurred in the swelling, on the contrary, it seemed rather to increase, the uterus being pushed further to the right side. Accordingly, and with the expectation of finding matter, I determined, on the 17th March, to puncture per rectum, the situation of the bladder making it impossible to tap per vaginam. To my surprise no fluid of any kind came from the canula, but a little dark-coloured blood, like currant jelly, was found in the end of the canula when it was withdrawn. No ill effects followed this operation, but neither did any improvement take place. On the 28th she had more rigors, and the tumour seemed to be increasing somewhat in size. The pulse ran up to 132, and the temperature to 105·2. On April 3rd she had another severe rigor; pulse 120; temperature 104·4; expression anxious, almost cadaveric.

Feeling still unconvinced by the previous tapping as to the absence of fluid, I determined to puncture again, and to drive the trocar deeper, which I did as before per rectum; and on withdrawing the trocar a horribly offensive, thick, prune-juice-coloured fluid rushed out with great force, to the amount of 55 oz. No pus was discovered in it, but only

altered blood-cells and fibrine. Nearly the whole of the abdominal swelling disappeared, and the patient was immensely relieved. The pulse next day fell to 104, and the temperature to 92·2. She went on well for a few days, but the swelling on the right side did not diminish to anything like the same extent as that on the left, and I was intending to make a third puncture per rectum, when nature forestalled me by making an opening herself just where I had intended it. Fifteen ounces of the same kind of fluid came away, and fifteen more followed a few hours after. For three days fluid of this kind passed with the motions, and then ceased. No more followed. All abdominal swelling disappeared, and only a slight indurated deposit could be felt on the 18th in the left and posterior culs-de-sac. The patient is now convalescent.

Before proceeding to a consideration of the lessons which these two cases seem to me well calculated to teach in regard especially to diagnosis and treatment, I wish, by way of contrast, to adduce briefly one other illustration of this affection, as it differs in many respects widely from the foregoing, and is, moreover, a type of a much larger and more common class —one in which the diagnosis rests rather upon probability than certainty, there being no absolute demonstration of its truth such as was afforded by the two preceding cases. Moreover, the treatment which was necessary in them would be altogether out of place in this.

Case 3.—Mrs. S—, aged 30, married ten years, and has had two children, the youngest being three years of age, consulted me on the 14th November, 1870, for a leucorrhœal discharge, which, she had been told, was due to an ulcer of the cervix uteri. On examination I found that the uterus was large, measuring three inches in length; the mucous lining of the cervix was everted, and deeply injected, being what is called by some authorities in a state of granular erosion. All the culs-de-sac were entirely free from any deposit whatever. On the day following she went out to dinner, and although it was very cold and wet, she determined

to walk in her light evening dress to the house she was going to visit, which was only a few doors off. Menstruation was about due at the time, but was frequently irregular, so that she could hardly be sure of the date. She had scarcely sat down to dinner when she was seized with severe pain in the hypogastric region, which compelled her to leave the room; and she was carried home, feeling very faint and ill. Some hot brandy and water was taken at once, and warm fomentations were applied. The pain, however, continued with but slight abatement, and the next day I was called in. On examining per vaginam I found a swelling behind the uterus, stretching across from side to side, and pushing the uterus slightly forwards; it also bulged a little into the vagina. There was extreme pain and tenderness in the lump, and also on deep pressure into the pelvis from above. The swelling was somewhat elastic, but more boggy. On the following day the swelling had increased; there was more pain; pulse 120; tongue furred; expression anxious. Nothing could be felt externally. Next day there was still greater increase and bulging of the swelling per vaginam, which now invaded the left side of the pelvis, pushing the uterus against the right obturator foramen. The pain was not so severe, but differed in that it was of a forcing, bearing-down character. The lump was more distinctly elastic, and I had no doubt that it contained fluid. It had pushed Douglas' pouch so low down as to be quite near the vaginal outlet, and might have been tapped with great facility, either per vaginam or rectum. On the fourth day there was slight aggravation of all the symptoms, with a relative increase in the size of the swelling, which, however, could only be felt externally on pressing into the pelvis. It did not rise above the level of the pelvic brim. There was no obstruction either of the bladder or rectum, though the bowels acted with difficulty and great pain, and only after aperient medicine. During the course of the next ten days the symptoms greatly abated; the pain diminished, and the swelling grew less and less, so that on December 14th, just a month after the commencement of the attack, it was noted that

"there is hardly a trace of the lump left; but a kind of ridge may be felt behind the uterus, forming, as it were, a cast of the peritoneal fold in that direction." Even that ultimately disappeared, and when I examined her early in February, nothing abnormal was discoverable.

On the 15th February, it being a menstrual period, she again exposed herself to cold, and was seized in almost precisely the same manner. I saw her the day after, and on examination I found that the uterus was depressed, pushed somewhat forwards and to the left side by a boggy, putty-like mass, which occupied the posterior and part of the right lateral cul-de-sac. Defæcation was difficult, and extremely painful. There was very slight sanguineous discharge from the vagina, and violent bearing-down pain, as if everything would force from her. The swelling at no time appeared to be larger than a good-sized orange. A few days subsequent to this, and after a good deal of forcing pain, she expelled a small mass, which on examination proved to be nothing more than a decolorised fibrinous clot, entangling a good deal of uterine epithelium. After this she felt great relief; the catamenial discharge came on much more freely; the post-uterine lump began to diminish in size; and she made a rapid recovery. I saw this patient a week ago; the uterus was then quite movable; no deposit could be felt in either cul-de-sac; and nothing abnormal could be discovered.

Now, in regard to the diagnosis of pelvic hæmatocele, the difficulties, such as they are, are greatly lessened where, as in the case which I have just recorded, we have perfect knowledge of the condition of the parts before the occurrence of the hæmorrhage. In that case I knew for certain that up to within a few hours of the accident, if I may so term it, there was absolutely nothing abnormal in either of the culs-de-sac; whereas, at the first examination, made very soon after the commencement of the symptoms, a distinct and clearly defined swelling existed behind the uterus, and a little to one side. The formation of the swelling, therefore, was

coincident with the attack. This is a most important point of diagnosis, because the question then arises: what swellings can be produced thus suddenly in this situation, and accompanied by such symptoms? I believe there are none such except those caused by hæmatocele. Of course, the uterus may be suddenly displaced backwards or forwards, and its fundus will occasion a swelling where none existed before. But it requires very little skill or knowledge to distinguish between these swellings and that due to a hæmatocele. The fundus is smaller, harder, more movable, and more circumscribed; besides, the use of the uterine sound could at once settle the difficulty if any such existed. If any other tumour, such as an ovarian tumour, or a subperitoneal uterine fibroid, became suddenly fixed in the anterior or posterior cul-de-sac, that, of course, might be productive of well-marked symptoms; but I am assuming that we knew no such tumour existed; moreover, the symptoms which these might give rise to would bear but very little resemblance to those of hæmatocele. The hardness of a uterine fibroid would at once distinguish it from a hæmatocele, and the circumscribed and movable character of an ovarian tumour would preclude its being mistaken for that affection. Cellulitis and peritonitis are the only other conditions which give rise to swellings that might conceivably be mistaken for hæmatocele, but, in the first place, though the inflammation itself may come on as suddenly as does hæmatocele, the swelling which results from that inflammation certainly does not; in the second place, cellulitis is not accompanied by such a sudden and violent accession of pain as occurs in hæmatocele; again, in cellulitis the swelling is always at first situate to one or other side, in or about the broad ligament, while in hæmatocele it is either in the anterior or posterior cul-de-sac, and most frequently in the latter. In cellulitis the swelling is firmer, and more boggy; in hæmatocele it is elastic and almost fluctuating. The differential diagnosis of hæmatocele and pelvic peritonitis is not a matter of equal certainty, because inflammation exists in both cases. They resemble

one another also in regard to the sudden and, it may be, severe accession of pain, and if they occur during a menstrual period, they will probably also be alike in the fact of its partial or entire suppression; but in ordinary cases of pelvic peritonitis the pain is certainly not so acute as in hæmatocele, nor is it accompanied by any symptoms of collapse, of fainting or prostration, or any symptom indicative of internal hæmorrhage. Moreover, the swelling which forms as the result of peritonitis occurs much more slowly, is much smaller in extent, firmer in consistence, and has no fluctuation or elasticity.

By attention to some or all of these points we may, I believe, in most cases arrive at a perfectly satisfactory, because true, diagnosis, whenever we have had opportunities of examining the parts before the occurrence of the attack. Of course, the more severe the hæmatocele is, the larger the amount of blood which is effused, and the more pronounced the symptoms are, the easier will be our diagnosis. In the two cases which I first related, and indeed in any case where the swelling is so enormous, the difficulty in forming a correct diagnosis is comparatively slight. It is in the less severe forms, where the quantity of blood effused is but slight, that the difficulty increases in proportion; and this is especially the case where we see and examine the patient for the first time during or at any time subsequent to the attack. Then, we must be guided more particularly by the history; if the symptoms dated from a delivery, either at full term or prematurely, that fact is *pro tanto* in favour of peritonitis, and against hæmatocele, for there is a very general consensus of opinion as to the extreme rarity of hæmatocele as compared with the frequency of pelvic peritonitis in connection with delivery, either at term or before. It is therefore with some surprise that I found no less than eight of Dr. Barnes' forty cases are associated with abortion. Happily for the patients they all recovered, but their recovery, unfortunately, made the correctness of the diagnosis open to question—at least, in some of the cases.

If the attack be not associated with delivery, possibly it

may have occurred during menstruation, or at a menstrual period; and here much discrimination is necessary. If the symptoms began during menstruation, the discharge suddenly stopping, and its cessation being coincident with the occurrence of pain followed by febrile disturbance, that would argue rather in favour of peritonitis or cellulitis, than of hæmatocele. On the other hand, if menstruation were due, but the discharge did not appear, and in its place sudden and severe pain came on, accompanied with more or less well-marked symptoms of collapse, or indications of internal mischief, that would point rather to hæmatocele, than to peritonitis or cellulitis. Such, at least, has been the general rule with the cases that I have met with; it was so in all those—four in number—in which I have demonstrated the existence of hæmatocele by puncture, and in three others, where the progress of the case led to the same diagnosis, the order of the symptoms was identical.

If, however, the attack be not associated either with delivery or with menstruation, but should occur independently of the menstrual period, the diagnosis will incline yet more strongly in favour of hæmatocele, because pelvic peritonitis and cellulitis are probably in all cases associated with functional activity of the generative organs; but there are forms of hæmatocele which, being of traumatic origin, may occur at any time, and are not necessarily connected with either uterine or ovarian functions. If, therefore, symptoms of the kind I have described begin suddenly in the intervals of menstruation, there is strong presumptive evidence of intra-peritoneal hæmorrhage.

A few words may now be said as to the way in which a hæmatocele is produced. Writers on this subject make a great many varieties, according to the proved or supposed source of the hæmorrhage. But I confess I do not see the advantage of such minute classifications; it is not useful either for diagnosis or treatment. M. Bernutz, for instance, makes five different classes of cases, one of which he again subdivides into four. This is independent of the cases connected with extra-uterine gestation. Dr. Barnes in the same

way makes four groups, one of which is subdivided into five. This also is exclusive of cases of extra-uterine pregnancy. Dr. Tilt makes six different classes; and Dr. Graily Hewitt makes eight. Now, divisions such as these, many of which possess no clinical value, inasmuch as it is simply impossible to diagnose them during life—and not a few of them seldom or never end fatally—are only confusing and apt to mislead. For instance, how is it possible to diagnose a hæmatocele produced by rupture of the utero-ovarian veins, from one due to the bursting of a Graafian follicle, or from the rupture of an ovary? all of which are included in the classes mentioned above. I should be sorry to oppose anything which tends to accuracy of diagnosis, but I question if such minute subdivision really has any such tendency. It seems to me, therefore, better to aim at such a classification as shall be at once practically useful, and at the same time meet all the demands of scientific accuracy; and I think this will best be found by adopting a physiological or pathological rather than a merely anatomical division. By this means we at once map out, as it were, into one group, all those cases in which the hæmatocele is formed from blood regurgitated from the uterus, and which arises from the performance of the functions either of menstruation or parturition. These form a clearly marked group, and there is no use in subdividing it. The other varieties of hæmatocele may all be grouped together as of organic origin, for they are all connected with some organic lesion, and are at least unconnected directly with the uterine functions. I purposely exclude in this division of the subject all cases of extra-uterine pregnancy, because they form a distinct group of themselves; and the fact of the existence of abnormal pregnancy is quite sufficient to separate them from the category of ordinary hæmatocele.

I may here make one remark on a point which has presented a difficulty to the minds of many, namely, as to the possibility of blood or menstrual fluid regurgitating from the uterine to the peritoneal cavity along the narrow Fallopian tract, in quantity sufficient to form a hæmatocele. Of course such a thing is not possible in the ordinary and natural state

of the parts. But there can be no doubt of the easily dilatable character of the Fallopian tubes, for all erectile tissue has that property, and they are pre-eminently erectile. There must, however, in all cases be previous distension of the uterus before its contents are forced along the Fallopian tubes, but when once the current sets in in that direction its continuance is, I believe, a matter of little difficulty. The crampy spasmodic pains in the hypogastric region which formed such a prominent feature in the first case that I have related were caused, I believe, by the continued attempt of the uterus to expel its contents after the first retention; and it was only when the second catamenial period returned that, under the influence of increased pressure, the Fallopian tubes yielded, and the fluid was poured into the peritoneal cavity, producing thereby such a sudden and severe aggravation of the symptoms. With this explanation of the phenomena which immediately preceded the attack, I think it may be regarded as fairly typical of the severer forms of hæmatocele due to menstrual disturbance. The second case, on the contrary, appears to me to illustrate some peculiarities of the organic type. The patient had a fall, from the effects of which she suffered more or less constant pain in the pelvis for six months; at the end of that time she was suddenly aroused from sleep by severe pain in the hypogastric region —something no doubt had given way, no other explanation is compatible with the facts, and thereupon in the course of a very short time the body swelled by reason of the blood which was poured into the peritoneal cavity. This short statement of what occurred, taken in conjunction with the facts revealed by vaginal and abdominal examination, is sufficient to stamp the character of the case.

In regard to the question of *treatment*, it would seem that the only point in dispute, or about which any difference of opinion exists is, as to the desirability of opening the tumour with a view to the removal of the effused blood. If we do not resort to this step, then we have to rely entirely upon the process of absorption, and the treatment consists in furthering that process as best we may. It need hardly be said that the

interest of this question affects only those cases in which the quantity of effused blood is considerable. At either end of the scale there are cases in which no reasonable man can doubt what course he ought to pursue. If, for instance, the pelvic swelling be so limited as only to occupy the anterior or the posterior cul-de-sac, and does not occasion much displacement forwards or backwards of the uterus, nor rise perceptibly above the brim of the pelvis, the idea of any surgical interference in such a case is altogether out of the question. On the other hand, if the swelling be so considerable that the uterus is pushed against either the pubis or the sacrum, making both micturition and defæcation a matter of great difficulty, if not, as in the case I first related, impossible, while at the same time the swelling rises considerably above the pelvic brim, then also there can be as little doubt that we are bound to interfere surgically, unless we are prepared to stand by with folded arms and see the patient die, or trust to nature's doing that by rupture which we refuse to do; always remembering that the latter course, even should it be accomplished, is by no means free from risk, for the cyst will not always burst just where we wish it, but its contents may, as it has done, escape into the peritoneal cavity and give rise to speedily fatal peritonitis.

Between these two extremes, however, lie the great majority of the cases we are called upon to treat, and hence the question of puncture or no puncture becomes one of great and vital interest. For the point probably is, not so much as to whether either course is more or less fatal than the other, because in this middle group the mortality is not as a rule very great, but as to which of the two methods of treatment—the expectant or do-nothing plan, and the active or operative plan—is most conservative of the patient's health and strength in the future; most conservative in the way of convalescence after the first acute symptoms have subsided. Formerly, my own practice strongly inclined to the do-nothing plan; it seemed so terrible a thing to open a tumour which was known to consist entirely of blood, that I had a very pious horror of such a proceeding; nor would I now

lightly resort to it. At the same time I must own that not only has further experience of the more active treatment greatly lessened my dread of it, but it has convinced me by actual observation that the cases so treated get well much quicker than those that are left alone; that in fact we do but help nature in the best possible way; and that a severe case which compels the use of the trocar will actually get well quicker than one much less severe which is left to the unaided or but feebly aided efforts of nature. I have watched these cases month after month through a wearily protracted convalescence, if such it could be called, only to find at last that the cure resulted in leaving a hard lump behind the uterus which no treatment could remove, which was a source of constant discomfort, and might have been of danger if pregnancy had occurred. It is not easy to submit this question to any statistical test, for the reason that no large number of cases can be collected; and, moreover, the rule has hitherto been only to resort to operative proceedings in cases where little choice was left. Referring, however, to the work of M. Bernutz—and I will here quote only from that as time presses, and because the author is strongly opposed to the practice I am now advocating, though, as I think I can show, his cases scarcely warrant his opposition—I find that in the chapters on menstrual retention and peri-uterine hæmatocele, there are, including those in the notes, in all 62 cases of hæmatocele, of which no less than 44 died and only 18 recovered. On examining into the treatment adopted in each of these cases, I find that 17 were operated upon, of which 9 recovered and 8 died; 8 ruptured spontaneously, and of these 5 recovered and 3 died; 37 neither ruptured spontaneously nor were operated upon, and of these only 4 recovered and 33 died: so that the gross result comes out thus: of 25 cases in which the blood was evacuated either artificially by puncture or naturally, if I may so call it, by rupture, 14 recovered and 11 died, the recoveries by this method being at the rate of 56 per cent., whereas of 37 cases in which the blood was not evacuated only 4 recovered and 33 died, the recoveries being at the rate of about 11 per

cent. This bare statement of facts, however, scarcely represents the whole case, because in many of the cases which died death occurred so quickly after the first occurrence of the symptoms that there was really no time for the performance of an operation even if that had seemed desirable. But there are many cases to which this remark does not apply, and in analysing them I will take first of all those which are comprised in the chapter on pelvic hæmatocele.

These represent a total of 35 cases, 27 of which died and 8 recovered. Of the fatal cases 22 died speedily, and gave no opportunity for operative interference. In 5 there was ample time, for the cases lasted from two to five months, but no operation was performed, and the result was that they all died. In 5 an operation was performed, and they all got well. In 2 the cyst ruptured, and they also got well; and 1 only got well without either operation or rupture. I think therefore I am fairly entitled to the opinion that M. Bernutz's facts and figures do not bear out the conclusions at which he arrived as to the undesirability of operating in these cases. On the contrary, the evidence is altogether in the opposite direction, for all those that were operated upon or which ruptured spontaneously did well, while nearly the whole of those that were left alone died.

If now we turn to the cases of pelvic hæmatocele, which are mentioned in the chapter on menstrual retention, I find that there are in all 27 cases; of these 17 died and only 10 recovered. Of the 17 fatal cases, 10 died suddenly before any operation could be performed. In 4 there was ample time for such interference, but none was resorted to, and they all died; 2 were operated upon and died, and 1 ruptured spontaneously with the same result. Of the 10 cases which recovered, 4 were operated upon, 5 ruptured spontaneously, and 1 only got well without either operation or spontaneous rupture; so that here again the same result is observable, for of the 10 cases which recovered, all except 1 were either operated upon or ruptured spontaneously, while those which were neither operated upon nor ruptured spontaneously all died.

Collecting together these two series of facts, we get the following result; excluding those which from the suddenness of the fatal issue—death occurring within a few hours or days—gave no opportunity for treatment of any kind. There are in all 30 cases, of these 11 were operated upon, 9 recovered, 2 died; 8 ruptured spontaneously, 7 recovered, 1 died; 11 were left alone, and of these only 2 recovered, and 9 died. Or to put it still more concisely, 19 were either operated upon or ruptured spontaneously, and of these 16 recovered, 3 died; 11 were neither operated on nor ruptured spontaneously, and of these only 2 recovered, 9 died.

It is impossible, I think, after studying these facts, to resist the conclusion which they seem to demonstrate most forcibly, namely, that the practice which has been hitherto recommended of leaving these cases to nature, in the hope that the blood would be absorbed, and that all the physician can do is to favour that process by rest, warm applications, stimulating embrocations, opium, mercury, local depletion, &c., is altogether unsound and contrary to experience, and that we ought rather to regard the blood thus effused as a foreign body, which is to be got rid of by the quickest way possible, viz. by tapping. It is remarkable too, and a point which ought to be borne in mind, as lending some countenance to the view just enunciated, that in almost every case where the blood is let out, either artificially or by rupture, it is in a most offensive condition; it has been so in each of the cases—4 in number—in which I have resorted to this proceeding; it is mentioned also in several of the cases of M. Bernutz, and I have heard of the same in the practice of others. So that it is evident that some decomposition takes place in the effused blood, and it appears to me most likely that that is the first step in Nature's process by which some destructive action is brought about in the cyst itself, and its subsequent evacuation by rupture secured. If this be fair reasoning from the facts, then I think it is clear not only that we are justified in interfering, but that we are bound to do so in order to rid the patient of a poisonous material, which must, if it be allowed to remain in a locality so abundantly supplied

with absorbents, be a source of great danger, and will seriously imperil her life. In one case which I tapped the patient had had such a succession of rigors that I fully expected pus instead of blood. The fluid was, however, of the latter kind, but most offensive, and I have no doubt that the rigors implied septicæmia, for that was fully borne out by the patient's condition, which was of a low typhoid character. Yet no sooner was the fluid evacuated than she at once rallied, and gave almost immediate evidence of great relief.

In thus advocating earlier and more frequent resort to operative interference in these cases, by which I mean puncturing with a trocar, or, better still, by means of the exhausting syringe of Dr. Protheroe Smith, I would not wish it to be understood that I recommend this practice in all cases—I have already indicated my dissent from this view; neither do I advise its adoption too early; some time ought certainly to elapse after the first effusion, in order that some kind of encysting process may take place. It is of course difficult to fix any time which shall be applicable to all cases, because much must depend upon the circumstances of each case, and the degree of emergency present; but unless the latter is great, I think that at least a month should be passed, after which, I believe, that the sooner the operation is performed the better will it be for the patient, and the more speedy and complete the cure.

If it be answered as an objection to this proceeding that, in the 40 cases related by Dr. Barnes, in which only one, and perhaps not one, death occurred, yet no such treatment was adopted, I must reply by reiterating the doubt which I have expressed as to the accuracy of the diagnosis in some of the cases, and I think I am fairly entitled to ask any one who will urge these cases as an objection to the practice now recommended, to explain, if he can, how it is that these 40 cases should all except one have recovered, while in the 11 cases which I have cited from Bernutz, in which the same method of treatment was adopted, only 2 recovered, and all the rest died.

One word with regard to the locality best suited for the

tapping. I believe that as a rule it is better to do so *per rectum;* in some cases we have no choice, because the bladder covers the whole vaginal aspect of the swelling; it was so in one of my cases. But besides this, the effused blood seems always more accessible *per rectum,* as it is generally, but not always, *retro*-uterine. Moreover, as a matter of fact, the cases which rupture spontaneously do so much more often *per rectum* than *per vaginam,* and as this seems to be nature's method, I think we cannot do better than imitate her.

In performing the operation of tapping we should be careful to thrust the trocar in far enough; in 2 of my cases the first tapping proved abortive, and I have no doubt that the reason of it was that I did not puncture deep enough. It is probable that some coagulation of the effused blood takes place circumferentially; this coagulated layer may in some places be very thick, and we must make allowance for that. At any rate, if it be a case fit for tapping, and we have resolved upon that course, we need not be afraid of going pretty deep, and we ought certainly to push on until fluid is reached.

In conclusion, I must tender my best thanks to the Society for their patient attention to my long and I fear very tedious paper. My excuse is that the subject is really one of vast importance to the health, comfort, and even the lives of many women. I feel even now that I have handled the two branches of the question—diagnosis and treatment—most imperfectly, but the paper is not intended to be regarded as any systematic essay, but rather as a suggestive communication.

One word more, if in my criticism on some of Dr. Barnes' cases I have written one word which is offensive to him personally, or which can be regarded as wanting in respect for his professional skill and reputation, I unhesitatingly withdraw it, for I regard the name of Robert Barnes as an honour to English midwifery, and we ought all to be very jealous of the honour of those who adorn our branch of practice.

The hour of adjournment having arrived, on the motion of Dr. Barnes, seconded by Dr. Phillips, the discussion on Dr. Meadows's paper was postponed to the next meeting.

JUNE 7TH, 1871.

J. BRAXTON HICKS, M.D., F.R.S., in the Chair.

Present—50 Fellows and 9 visitors.

The following gentlemen were elected Fellows of the Society:

Fred. H. Alderson, M.R.C.S. (Hammersmith); Frank Argles, L.R.C.P. Ed. (Wanstead); Alfred Armstong, M.D. (Lower Norwood); Arthur Beadles, M.R.C.S. (Forest Hill); Francis Roberts Hogg, M.D., Woolwich, and William McBeath, M.D. (Atherstone).

Mr. CHARLES M. CARTER, M.B. (on the introduction of Dr. Graily Hewitt), exhibited a large fibroid tumour of uterus which has undergone degeneration and cretification.

The patient, a single woman, æt. 69, was under the care of Mr. R. D'All, of Buckingham. She was known to have had a tumour—supposed ovarian—for forty years. This tumour had been slowly increasing during the last few years. She died about the end of October, 1870, of bronchitis. On opening the abdomen the pelvis was filled with the large mass of the tumour, which had shaped itself somewhat to the form of the pelvis; on the anterior part was a spot, the size of a sixpence, through which pus escaped on pressing the tumour; this was enlarged and three pints of pus were drawn out, which is described as being like that met with in connection with dead bone; in this a small piece of bone was found about half an inch square.

On examining the mass removed it is seen that the tumour is in front of the uterus, and the latter appears rather as an appen-

dage of it; the uterus is nearly normal in size, cervix lengthened and bent to the right; in its cavity are two small fibroid tumours; attached to the right side by a large peduncle is a hard, calcified fibroid tumour, the size of a Maltese orange.

The large fibroid tumour which has broken down in the centre is eight inches long and six inches broad, and presents a curiously ragged and honey-combed appearance interiorly. The walls vary in thickness from a quarter to one or two inches; it has exteriorly undergone cretification, more especially on the upper and anterior aspect.

Ovaries, &c., apparently healthy and normal.

Other organs were not examined.

Dr. ROUTH stated that the chief interest in the case was the formation of pus in the fibroid. Calcification and absorption, or even fatty degeneration, were common, but not purulent disintegration. He would like to know if any blow had been received on it prior to the death of the patient, or if the pus had been microscopically examined.

Mr. SCOTT exhibited a specimen illustrating an operation for double ovariotomy performed on May 3rd. He said—The woman from whom I removed those tumours, the one a multilocular cyst of the right ovary, the other a fibroid tumour of the left, is a married woman, æt. 35 years, the mother of three children. She first perceived a lump, the size of an egg, about five years since in front of the right kidney. This disappeared during the succeeding pregnancy which occurred immediately after. She felt much pain in both inguinal regions during the whole term. The labour was long and severe, but she did well for ten days, when an attack of peritonitis came on which laid her up seven weeks. The abdomen remained as large as before delivery.

Fifteen months after she became again pregnant. In sixth months of utero-gestation another attack of peritonitis occurred; duration of illness seven weeks; from that time

Dr Westmacott delt et dirext

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she was unable to walk during the remainder of term. Labour was quick, and the pains severe. Twelve days after delivery the third attack of peritonitis took place; she was unable to get up for sixteen weeks. She states that during her last pregnancy the uterus and its contents lay on the right side of the abdomen, the ovarian tumour on the left. Nothing remarkable in the operation.

Points of interest.—Adhesions few and very slight. The pedicle on the *right* side very long and thin, and twisted one turn and a half at least, illustrating the danger which may occur from strangulation. In this case the pregnant uterus must have insinuated itself under the pedicle, and by its gradual development thrust the ovarian cyst from the right to the left side of the abdomen, thus causing the twist. Coexistence of ovarian tumour with two pregnancies, both terminating safely. The rapid growth of the fibroid tumour of the left side. The patient now convalescent.

Dr. PHILLIPS expressed a doubt from the appearance of the specimen whether the fibroid growth was strictly ovarian in its origin; and

Mr. SPENCER WELLS said the larger tumour was undoubtedly ovarian, but he believed the smaller was a fibroid outgrowth from the uterus. This case, and that just before exhibited, were good examples of difficulty in diagnosis which is not rare. The large fibroid, with its cyst-like cavity full of fluid, and only loosely connected with the uterus, might have been easily mistaken for an ovarian tumour; and in Mr. Scott's case he (Mr. Wells) believed a uterine tumour had been supposed to be ovarian.

Dr. GREENHALGH exhibited his new metrometer sound for measuring any part of the cavity and neck of the uterus from side to side and from back to front, as well as in its long axis.

In shape, length, and termination, it closely resembles the ordinary Simpson's sound, and consists of a small canula, through the centre of which runs a movable shaft, to the

upper extremity of which are attached two watchsprings, and to the lower a graduated scale fixed by a screw.

The instrument being introduced the required distance into the uterus, the screw is then loosened, which prevents the escape and divergence of the watchsprings, which on being arrested by the uterine walls registered on the graduated shaft the amount of divergence.

It can be used as an ordinary sound, and can be easily taken to pieces for the purpose of cleanliness.

The adjourned discussion on Dr. Meadows' paper on "Pelvic Hæmatocele" was then resumed.

The PRESIDENT suggested, as a useful point to bear in mind during the discussion to follow, that Bernutz's paper was written to establish the existence of a condition which had not obtained much attention, and that therefore the cases were selected as conclusive, and only the very severe kinds were brought forward; whereas Dr. Barnes' cases were more clinical, and not necessarily so selected for intensity.

Dr. BARNES said Dr. Meadows' paper consisted of three parts. The first was devoted to criticism of a paper by Dr. Barnes; the second was casuistical, Dr. Meadows relating three cases of his own; the third part discussed the diagnosis and treatment of pelvic hæmatocele. Dr. Meadows was very solicitous that Dr. Barnes' cases should not be used by statisticians. Dr. Barnes could not accept any responsibility for the freaks of statisticians. He repudiated the idea that any safe deductions in pathology or therapeutics could be drawn from statistical manipulation of cases. He himself had consumed no little midnight oil in statistical work. He wished he could recover some of that wasted oil and use it to better purpose. Dr. Meadows had in his paper given another illustration of the vanity of seeking to draw rules of treatment from statistics. He had dealt with the cases of Bernutz after this fashion, and came to a conclusion strictly the

opposite of that which Bernutz himself had formed. By manipulating these cases Dr. Meadows had convinced himself that puncturing the blood-tumour was the right thing to do. Now he (Dr. Barnes) must say he very much preferred the deliberate judgment of Bernutz upon his own cases, arrived at by a process of clinical reasoning and comparison, to Dr. Meadows' statistical deduction. Dr. Meadows doubted Dr. Barnes' cases because they were so many. Dr. Barnes asked if his experience was so very exceptional? Olshausen ('Arch. f. Gynäk.,' 1870) said that, in 1867, Scanzoni had only seen two cases. Olshausen says Scanzoni ought to have seen 200. Scanzoni's small experience might be explained by a circumstance which had some bearing upon the discrepancy between Dr. Barnes' experience and Dr. Meadows.' Würzburg was not a big place. It could not furnish the material of Berlin, Vienna, or the East of London. Olshausen himself had seen 34 cases of hæmatocele in 1145 gynæcological cases. Seyffert had seen 66 cases out of 1272. Carl Braun in 1862 had seen 10 cases in three or four years only, of which only one, a case of extra-uterine gestation, died. In fact, it was only necessary to look for these cases with intelligence in order to find them. Dr. Meadows questions Dr. Barnes' diagnosis and specifics of cases as especially open to doubt. Dr. Barnes expressly says in his paper that "some of his cases are no doubt open to criticism as to diagnosis. In some instances the diagnosis was drawn from the history and general symptoms, and was not established by local exploration." As to the general character of the cases Dr. Barnes would premise that every one had been seen either in consultation or in hospital practice; and that there was thus a presumption that the symptoms were severe enough to create anxiety. The Case 28, described as "menstrual retention at onset of function and hæmatocele," was one of a type perhaps not recognised, but the symptoms indicating flow of blood into the peritoneum were, to his mind, satisfactory. Case 31 was one of a class in which the symptoms also, if not so fully reported as was desirable, left little doubt on his mind. In Case 43, although the patient ultimately died of malignant

disease in the abdomen, the hæmatocele was satisfactorily made out by history and by physical exploration. Case 49 had been seen by Dr. Oldham as well as by himself; the diagnosis was established by physical exploration; another physician subsequently questioned this diagnosis and attempted to perform ovariotomy, but no ovarian tumour was removed, and the patient died. Then as to the facility of diagnosis: this depends upon the extent of one's experience, not alone of hæmatocele, but of pelvic diseases generally. It was most liable to be confounded with pelvic peritonitis. Now, he had been familiar with pelvic peritonitis thirty years, ever since he had seen a number of these cases in the Paris hospitals. The history and physical signs of pelvic peritonitis, as occurring from other causes than effusion of blood into the peritoneum, differed materially. By clinical comparison it was not difficult to tell a case of peritonitis with hæmatocele from one without. Olshausen says the diagnosis is easy "to those who want to see the blood by puncture or post-mortem; he answers, it is as reasonable to doubt an abscess until you let out the pus, or pregnancy until you see the child. It is not even necessary in most cases to make an internal examination." Dr. Tuckwell, who has written an excellent monograph on the subject, says, "a third class of cases is characterised by symptoms in a very much milder form: the pain is slight; the fever moderate; the effusion seldom large enough to be felt above the pubes." Dr. Meadows himself has written, "the cases are not so rare as is generally supposed, and diagnosis not difficult, and that a careful study of those affections which eventuate in hæmatocele, as well as of the coincident symptoms, is of more value in diagnosis than even vaginal examination." Dr. Meadows might surely give Dr. Barnes credit for being as competent to work out a diagnosis in this way as himself. Dr. Meadows might fairly be asked how it was that, when he wrote this passage several years ago, he was enabled to say, "these cases were not so rare as was generally supposed," and now to question their frequency? Dr. Meadows is astonished that Dr. Barnes should have to report eight cases attending abortion. The

cause in some cases is marked with a query; still Dr. Barnes had no doubt that, in some of them, hæmorrhagic effusion into the peritoneum was the result of abortion artificially induced. The possibility of this occurrence should not be questioned because Dr. Meadows or others had not noticed a similar connection. Again, Dr. Meadows doubted because so many of Dr. Barnes' cases recovered. It would have been easy to produce a more convincing mortality if he (Dr. Barnes) had punctured the cysts and given purgatives. Dr. Meadows takes exception to Dr. Barnes' division of cases. He failed to see that Dr. Barnes' design was simply to illustrate the matter from a clinical point of view, not to classify. The source of the hæmorrhage could rarely be diagnosed. It was, however, useful to *group* the cases. Dr. Meadows would exclude rupture of the uterus and rupture of tubal gestation cysts; but from a clinical point is not this exclusion arbitrary? is it not throwing away valuable illustrations of the pathology and symptomatology of hæmatocele? All authors have described tubal ruptures in connection with this subject. How can we avoid doing so? During life the diagnosis can hardly be made with certainty. All we know is, that there is intra-abdominal, traumatic, and peritoneal hæmorrhage. Then, admitting tubal ruptures, how can we stop short of including uterus ruptures? There is a gradation from tubal ruptures to interstitial gestation, and thence to uterine gestation. In all the cases there may be rupture, and rupture entails hæmorrhage. There are two symptoms which mark all cases of hæmatocele from whatever source. These are shock and internal hæmorrhage. In the two first groups rupture of uterus and tubal cysts, which Dr. Barnes called "cataclysuric," from the terrible overwhelming nature of the injury, the shock predominates, and alone may kill. In these cases the hæmorrhage takes place all at once; it is extensive and rarely becomes encysted. The patient dies quickly in most cases, but not in all. She may recover from both shock and hæmorrhage. Then the blood may become encysted, and it is then undistinguishable from hæmatocele from any other cause. Then we descend through the other groups to cases

of less and less severity, the shock becoming less prominent, the hæmorrhage being more gradual or even remittent, and the peritonitis coming into prominence. *A fortiori* recovery is more frequent. Of one class of cases which might almost be called cataclysuric no example is given, viz. those where there is retention from atresia and regurgitation along the tubes; yet these would not have been omitted in a classification. Lastly came the question of treatment. Dr. Meadows had indulged in a sneer upon the "rest-and-be-thankful" system. But had not the patients reason to be thankful if they recovered? This great principle governed to a great extent the question of puncture. It was most important not to disturb parts which have been recently the seat of severe injury; rest was necessary to allow of the conservative process of encapsulation of the blood by plastic effusions. But Dr. Meadows seemed to advocate almost indiscriminate puncture. Dr. Barnes contended that puncture was only necessary when urgent symptoms, as of toxæmia, arose. In such cases he had punctured, not, indeed, with much benefit, for all the patients punctured died; but Dr. Meadows went further in his disregard of the principle of rest. He (Dr. Barnes) had heard, with something more than amazement, Dr. Meadows' first case, in which, in the midst of acute abdominal mischief and peritonitis, he had persistently given purgatives and enemata of aloes and turpentine. Dr. Barnes thought that, since Graves' time, it had been an accepted axiom among clinical physicians to treat all cases of abdominal injury, whether from perforation of the intestine or other cause, by rest and opium. It was upon the strict observance of this principle that the hope of recovery depended; but because the bowels were constipated Dr. Meadows purged, was it necessary to say that in similar cases the true way to relieve the patient was to persevere with opium? The difference between treating by rest and opium and purgatives was simply between doing right and wrong, between helping the patient over a dangerous crisis and running a serious risk of destroying her.

Dr. Snow Beck did not consider that quoting the opinions

of foreign authors was the proper mode of discussing practical questions like the present. He thought that, with the large field of observation open to the Fellows, it was better for each to contribute his own experience, and by comparing it with that of others to endeavour to advance the subject under discussion. His experience led to the conclusion that retro-uterine hæmatoceles were comparatively rare affections; but this conclusion depended upon the pathological conditions which were to be included under this term. He did not think that rupture of the gravid uterus, or rupture of extra-uterine gestation cysts, or ovarian cysts, with large effusion of blood in the peritoneum, ought to be included under this term, which was properly restricted to effusions of blood encysted in the pelvic peritoneum, or extravasated into the loose cellular tissue in the pelvis. Dr. Barnes, however, had adopted a very different meaning to uterine hæmatocele, and had included under it not only all effusions of blood which took place from the uterine organs under every possible condition, but also disordered menstrual conditions where there was no evidence that any effusions of blood had ever taken place. He could not agree in thus grouping together pathological states which had no relation to each other. He regarded it as the same vicious mode of proceeding as Dr. Barnes had adopted with respect to puerperal fever, whence all diseases to which women are liable, diseases of the kidney, of the gall ducta, of the liver, scarlet fever, typhoid fever, pyæmia, rheumatism, &c., were called by him puerperal fever when they occurred in a woman who had recently given birth to a child, or suffered from an abortion; but at other times were called diseases of the kidney, liver, &c. He could not agree with Dr. Barnes in considering the two cases he had just referred to as cases of hæmatocele, on account of vague pains in the pelvis, with tenderness at the hypogastrium, but no other symptoms of effusion of blood into the pelvic peritoneum. He was certain that several cases related by Dr. Barnes were not cases of hæmatocele. But to be more precise he quoted one example:—"Case 28.—A young lady, aged 13, who had not

menstruated when seen by Dr. Barnes, had 'intense fever; countenance expressive of intense pain; draws her legs up; the abdomen, especially near the pelvis, very tender on pressure, not much swollen; the finger passes the hymen; cervix felt with difficulty; full examination prevented by the acute pain.' She recovered." Intense fever; intense pain; abdomen very tender *near* but not *in* the pelvis, are not present in the undoubted cases of uterine hæmatocele, much less in assumed cases in young girls at the age of thirteen. Again, acute pain when the finger is passed into the vagina is not present in uterine hæmatoceles, and when present shows that the pelvic organs are in a state of congestive inflammation not unfrequently met with in young women, whilst the only evidence of any effusion of blood rested on Dr. Barnes' imagination that it was so. The reference which had been made to the so-called cases of "pelvic peritonitis" seen in the French hospitals, confirmed the conviction that Dr. Barnes had entirely mistaken the nature of several cases he had recorded as hæmatoceles, for there the term "pelvic peritonitis" was applied at the time Dr. Barnes referred to, to all cases where there were vague pains in the pelvis, with some tenderness at the hypogastrium, whatever might have been the affection which caused these symptoms. Dr. Barnes has recorded fifty-three cases of "so-called retro-uterine hæmatocele;" but if the cases of rupture of the gravid uterus and of extra-uterine gestation cysts and ovarian cysts were excluded, together with the cases of disturbed menstruation in which there is no evidence of any effusion of blood, there remained three cases of uterine hæmatocele from rupture of diseased ovaries, and eight cases of "attending abortion," all of which recovered, and some of which are so very doubtful as to lead to the conviction that they ought also to be excluded. But admitting the more probable of these cases, the number of examples of uterine hæmatocele is reduced from fifty-three to seven or eight, which agrees with the experience of other observers that this form of disease is of comparative rare occurrence. With regard to the treatment, he could not agree that rest and

opium was all that was required. The majority of the instances recorded by Dr. Barnes, and where this plan had been adopted, were not cases of uterine hæmatocele. Where blood became encysted in the pelvic peritoneum or neighbouring cellular tissue, it was desirable to remove it if possible, and to prevent the cyst from refilling. Nature points out this course in the evacuations which take place by the rectum or vagina; and the danger of allowing it to remain is shown by the cyst sometimes bursting into the peritoneum, or the woman being gradually worn out by constant suffering, &c. However, where the effused blood forms a firm mass, causing little inconvenience except from its presence, it would not be desirable to interfere with it.

Dr. Madge, in reply to Dr. Snow Beck, said that in the case he had published in the 'Transactions' of the Society death did not take place from the rupture of the cyst into the peritoneal cavity. There were repeated hæmorrhages from the cyst, the blood passing per rectum, and some of the contents of the hæmatocele seemed to have undergone changes of an unhealthy character, which induced a pyæmic condition, and the patient died from exhaustion. In the paper on this case it was stated that cases might happen in which it might be thought advisable to puncture the tumour to prevent its bursting into the peritoneal cavity, but he (Dr. Madge) did not know that such an occurrence had ever happened. Dr. Madge said that he was the first to bring the subject of uterine hæmatocele before the Society. His paper was read about ten years ago, shortly after the appearance of the works of MM. Bernutz and Goupil, and of Voisin. It contained a *résumé* of the opinions of all the leading authorities on the subject up to that date.

Dr. Phillips said that when he seconded the motion for the adjournment of the debate at the last meeting, he was influenced by the desire to hear the experience of the Society on the general subject of uterine hæmatocele, and he hoped the Fellows would take the opportunity thus presented for discussing the question, as he believed it had never been under consideration, at any length, in the Society. In

reference to the frequency of sanguineous effusions in the pelvis, he thought that in small quantities they were by no means of uncommon occurrence. Cases were frequently coming under observation in which a distinct swelling existed behind the uterus, not presenting the ordinary signs of simple pelvi-peritonitis, and which disappeared so rapidly, that he thought there could not exist much doubt as to its sanguineous nature. Instances of large effusions extending above the pelvic brim he agreed in considering as comparatively rare. Excluding the severe cases, in which the hæmatocele was dependent on some grave lesion, such as the rupture of an extra-uterine fœtal cyst or of the gravid uterus, and including only the more common cases in which the effusion probably proceeded from the ovary, associated with the rupture of a greatly congested Graafian follicle, or of an enlarged ovary itself, or from the bursting of a distended vein, he thought the mortality was not nearly so high as Dr. Meadows seemed to imply. There existed in the London museums but very few preparations showing the existence of retro-uterine hæmatocele, and this seemed to prove that fatal cases were not very frequently observed. He had been on the look-out for such cases in the post-mortem room at Guy's for some years, and had met with very few indeed. He was desirous of knowing the experience of the Society in reference to the accompanying general symptoms, as, he thought, these were not necessarily very severe. They would doubtless vary with the quantity of blood lost; but he could not help thinking that the peritoneal symptoms described in some monographs were exaggerated. Perhaps it would be admitted as a pathological law that the amount of peritonitis would vary with the quality of the effused fluid which acted as the exciting cause. Urine extravasated into the peritoneum would set up violent inflammation, so would the contents of the stomach or intestines making their way through a perforating ulcer, but any one who had taken the trouble to examine in the dead-house would probably agree with him that pure blood set up but little peritonitis. This could be well seen in cases where, after rupture of an abdominal viscus,

such as the liver, the patient had lived a sufficient time for signs of peritonitis, if any, to be manifested. He wished, however, to exclude from this category those cases in which menstrual blood was effused into the peritoneum after long retention in utero, for under such conditions the character of the blood was materially altered. At any rate, the non-existence of severe peritoneal symptoms would not lead him in a given case to exclude from consideration the existence of an intra-peritoneal blood effusion. Dr. Phillips was glad to hear that Dr. Meadows agreed with the majority of observers that the seat of the effusion was generally the peritoneal cavity. He asked the permission of the Society to refer to one point which was quoted in some text-books as a diagnostic sign between extra- and intra-peritoneal hæmatoceles, but which he considered very fallacious; this was the depth in the pelvis to which the effusion extended. As demonstrator of anatomy for some years, he had had opportunities of examining the retro-uterine pouch, and he had no hesitation in saying that in many cases it extended considerably lower than represented in the usual diagrams. Indeed, in one case at Guy's it reached so low as to be wounded in the operation for ruptured perinæum, and he had seen a tight ovarian cyst so stretch the pouch and the posterior vaginal wall as to descend within an inch of the vulva. Proceeding to the question of diagnosis, he regretted that the author of the paper had dismissed in a few words the differential diagnosis of an ovarian cyst and a retro-uterine hæmatocele. Dr. Phillips confessed that in several cases lately he had been greatly puzzled at first to know whether he had to deal with a small inflamed ovarian cyst or a blood effusion. At such a time the mobility of an ovarian cyst did not exist; neither the consistence nor shape of the swelling afforded much assistance; and further, too much dependence must not be placed upon the preceding history (which was generally so important an element in the diagnosis), as urgent symptoms occasionally came on suddenly when, from some cause or other, an ovarian cyst became strangulated in the pelvis and inflammatory adhesions formed around it. An intra-peritoneal blood effu-

sion sometimes occupied more of one side of the pouch than the other, as in a specimen exhibited by him to the Society in the year 1868, and so the difficulty of diagnosis would be increased. There was one sign which he considered of some value, viz. that an ovarian cyst had already generally displaced the uterus towards the opposite side of the pelvis, whereas a blood effusion usually pushed the uterus forward without producing much lateral obliquity. Dr. Phillips believed the principles of treatment laid down by Dr. Barnes to be most scientific, and clinically he had found them attended with excellent results. He thought that it was not often necessary or advisable to puncture the cyst. The more limited effusions certainly did not require surgical interference, and although he had seen several cases where the hæmatocele was large he had not had recourse to puncture. In one case, indeed, he was much inclined to relieve the tension which existed on the posterior vaginal wall, and which seemed to excite severe vomiting; he waited, however, and the patient did well. Not long previously he had watched a case in the hospital for three or four months in which on admission the effusion extended above the umbilicus, but it was gradually absorbed, and at the end of that time scarcely a trace of it could be found, although it was not known to have made an exit by any outlet. In another case which he had seen, of suspected intestinal obstruction, he found an extensive blood effusion, the patient ultimately recovering without any surgical aid. Probably no one would doubt the expediency of evacuating the cyst if pyæmic symptoms threatened, from the absorption of putrid contents (which, he believed, rarely happened if the patient were left alone), but the cases in which tapping was applicable seemed to him to be few. It was certainly not safe to tap while the effusion was yet fluid and non-encysted in the pelvis, while at a later period the serous part of the blood had in most cases already undergone absorption, and it was almost useless to puncture the remaining mass. Dr. Phillips confessed that he was hardly prepared to hear disparaging remarks on the expectant treatment of disease from a gentle-

man working so well at scientific uterine therapeutics as Dr. Meadows. He (Dr. Phillips) was content to treat most of his cases of hæmatocele by rest in bed, by opiates and by soothing local applications, and the result of his practice in such cases hitherto encouraged him to persevere in the same line of treatment.

Dr. Gervis said that it appeared to him that Dr. Beck's remarks were founded on a misapprehension of Dr. Barnes' views. Dr. Beck read out certain particulars Dr. Barnes mentioned as connected with some of his cases, such as fever, extreme abdominal tenderness, heat of vagina, drawing up of the legs, &c., and then asked if such were the symptoms of peri-uterine hæmatocele. Now, he (Dr. Gervis) would venture to say that Dr. Barnes never asserted that these were the symptoms of peri-uterine hæmatocele, but that in these cases there was pelvi-peritonitis plus more or less intra-peritoneal effusion of blood, standing to one another in the relation of cause and effect—the effusion of blood occurring first, and the local peritonitis following. And, again, on the question of treatment, Dr. Beck asks, if purulent accumulation be present, what will rest do then for the patient? Whereas Dr. Barnes very distinctly said that the indication for puncture and further treatment was the presence of irritative fever pointing to the occurrence of local suppuration. On the general question of the comparative frequency of slight cases of effusion of blood into the peritoneum followed by local peritonitis, he (Dr. Gervis) entirely coincided in the opinions expressed by Dr. Barnes and Dr. Phillips.

Dr. Graily Hewitt stated that, the frequency of peri-uterine hæmatocele being under discussion, he was desirous of giving his personal experience, which was to the effect that during the last five years he had observed in University College Hospital altogether, he believed, about twelve or fifteen cases, including one in which the disorder had been observed on three successive occasions. The cases observed had all recovered, and in no case had puncture been resorted to.

Dr. Tilt remarked that if the German pathologists had

found hæmatocele to be frequent, all the French writers, who had discovered the disease and elucidated its pathology, considered it as very rare. Since he first drew the attention of British pathologists to hæmatocele, in 1853, Dr. Tilt had only met with twelve cases, and he thought that the clue to this discrepancy might be found in the fact of pelvi-peritonitis being often mistaken for hæmatocele. Dr. Tilt instanced one of Dr. Barnes' cases, of which he owned that it might perhaps be a case of pelvi-peritonitis, and not hæmatocele, and Dr. Tilt was decidedly of opinion that the same remark was applicable to at least half a dozen of Dr. Barnes' cases. With regard to treatment, Dr. Tilt said the majority of cases required no surgical treatment, but when the collection of blood was considerable, and the tension of the sac very great, he had repeatedly punctured it through the vagina and allowed the blood to drain away of its own accord, thereby greatly relieving the patient's suffering and shortening the duration of the disease. He, however, deprecated a return to the treatment first adopted in such cases, the wide opening of the sac, the breaking up of the blood-clots and subsequent injection of tepid water, which treatment was attended by great mortality.

Dr. Greenhalgh, after some brief eulogistic remarks upon the author of the paper for his courteous criticisms, which he considered worthy of imitation, upon Dr. Barnes' views, stated that he (Dr. Greenhalgh) agreed with Dr. Meadows that pelvic hæmatocele was by no means so frequent or so harmless an affection as Dr. Barnes would lead the profession to believe. On a rough estimate, he (Dr. Greenhalgh) did not think he had seen more than twenty-five indubitable cases of that affection, notwithstanding he had had extensive opportunities of meeting with such cases. He further remarked that, judging from the evidence adduced, he much doubted the accuracy of the diagnosis in many of the cases narrated by Dr. Barnes. He observed that many of the cases of pelvic hæmatocele which had fallen under his notice were of a far graver character than those recorded by Dr. Barnes, three having died speedily after the attack, and several others requiring

much more treatment than the rest and do-nothing system advocated by Dr. Barnes. In three cases puncture and evacuation of the effused blood had been necessitated by the severity of the constitutional symptoms, followed by satisfactory results, and he (Dr. Greenhalgh) had little doubt that had puncture been practised in some of the other cases the patients would have made a far more rapid and satisfactory recovery. He inferred from Dr. Meadows' paper that, while advocating other means of treatment in this affection, he attached due importance to rest.

Mr. Spencer Wells said his personal experience of pelvic hæmatocele was chiefly as a sequence of ovariotomy. Oozing of blood or bloody serum after the separation of adhesions might go on and gravitate to the recto-uterine peritoneal space. He had opened several such collections, and drained them by canula or drainage tube. These collections resembled the more severe forms of hæmatocele, which were certainly rare. But he believed that the less severe forms, where only small quantities of blood are effused and afterwards absorbed, are very common. He had seen many such cases after the intra-peritoneal treatment of the pedicle by cautery or ligature. When by the extra-peritoneal method the pedicle, including the Fallopian tube, is fixed in the cicatrix in the abdominal wall, it is not uncommon at the menstrual period for several months after operation to see a little menstrual blood escape through the cicatrix. This is of no consequence whatever. But when the tied or cauterized pedicle is in the pelvis a good deal of trouble is sometimes observed at each menstrual period for some months, with all the signs of hæmatocele. In two cases he (Mr. Wells) had been obliged to relieve such a condition by puncture. In the slighter cases he agreed with Dr. Barnes that rest and opiates constituted the best treatment. But there are other cases, where a high temperature, rapid pulse, loss of flesh, dry tongue and skin, with a painful distended abdomen and scanty concentrated urine, showed that the patient was being poisoned by absorption; and here not only puncture but drainage was necessary to save life. Puncture alone might only give tem-

porary relief, or do harm by hastening decomposition of blood or pus, but when a canula or drainage tube maintained a free escape for fluid and gas cases apparently hopeless did well.

The PRESIDENT said that as the time was so late he would not detain the Society further than to say that, if symptoms possess any clinical value, then he thought these cases not so uncommon. The very severe kinds were not in his experience very frequent, but the lighter sort, where there was less collapse and anæmia, did present themselves, and were sent away making good recoveries. The symptoms in the lighter cases were the same as in the severe kinds, only less marked, and one could only come to the conclusion that they were mild cases of retro-uterine hæmatocele. With regard to the diagnosis, after some time had elapsed it was very difficult to find out how much collapse or blanching had been present, and upon the amount of these symptoms the accuracy of the diagnosis a good deal depends. He had also found difficulty in diagnosis between the condition under discussion and that of an ovarian tumour behind the uterus, not previously noticed, and giving way suddenly — partially, not followed by general peritonitis—the suddenness of the attack and the swelling imitating retro-uterine hæmatocele much. If one could not learn what amount of shock and pallor followed the difficulty was great.

Dr. MEADOWS regretted that Dr. Barnes had entirely misapprehended the spirit of the criticism which he (Dr. Meadows) had made of the paper in question. He repudiated all personal feeling in the matter, but he reiterated his protest against the assumed accuracy of the diagnosis of many of the cases, and he did so distinctly upon the ground that, if unchallenged, these cases might hereafter be used for obstetrical purposes in a way which their real importance would not warrant. He believed that many of them were not cases of pelvic hæmatocele at all, if the recorded histories fairly represented the clinical phenomena. The vaginal examination in several was most incomplete, and there was little else upon which to form a correct diagnosis. Opinions

seemed to differ very much as to the frequency of this affection; for his own part, he agreed with most of the speakers who had preceded him as to its comparative rarity. He regretted that one chief feature in his paper had not been alluded to by any of the speakers, viz. the desirability of more frequently resorting to puncture, and, while agreeing entirely in the value of rest in the treatment of these cases, he thought that the facts which he had brought forward in his paper made it necessary that we should review our practice in this respect, at least in regard to those cases where the quantity of effused blood was more or less considerable. The frequency of spontaneous rupture, either by the vagina or rectum, and the escape of the effused blood, seemed to be nature's method of pointing out the treatment which we ought to adopt. The fact that of 19 cases in which the blood was let out, either by spontaneous rupture or by tapping, 16 recovered and only 3 died, while of 11 cases in which it was allowed to remain 2 only recovered and 9 died, was to his mind conclusive, and seemed to establish the principle that blood effused into the peritoneal cavity should be regarded as a foreign body, and that the sooner it was removed the better. He found, moreover, that the period of convalescence was greatly shortened by the tapping or rupture; many of the cases so treated got well at once, while those which were left ran a protracted course during the absorption of the blood-clot, and many were left after all with a lump permanently attached to the uterus.

JULY 5TH, 1871.

J. BRAXTON HICKS, M.D., F.R.S., President, in the Chair.

Present—42 Fellows and 3 visitors.

The following gentlemen were elected Fellows:—Hugh Miller, M.D. (Glasgow); G. C. Robson Roose, M.R.C.S. (Brighton); and Fredk. Turton, M.R.C.S. (Wolverhampton).

Books were presented by Dr. Edward Copeman, Dr. Routh, Dr. T. J. Brown, Dr. Hays, Prof. Cazati, Dr. Saboia, Dr. Spiegelberg, Prof. Gusserow, and the Royal Medical and Chirurgical Society.

Dr. CURGENVEN exhibited a specimen of knotted cord.

Dr. PROTHEROE SMITH exhibited a new expanding cylindrical speculum uteri. This speculum consists of a truncated cylinder, divided longitudinally at its upper third into four hinged blades. At the centre of each hinge a vertical sliding rod is affixed, having a deep notch at its inferior extremity. The base of the cylinder is surrounded by a movable ring or rim; within are placed four small wedge-shaped springs, corresponding with the notches already mentioned as belonging to the vertical rods. This ring is rotated by the handles of the speculum when pressed together, the effect being to force the wedge-shaped springs within the notches of the vertical rods, and thus, by drawing down the rods, to produce lateral expansion of the blades. Each spring can separately be thrown out of gear, so far as

the notch is concerned, by unscrewing the corresponding little button, and by pressing it upwards, and fixing it by the screw. Thus, one or more of the blades may be left stationary, whilst the others are expanded, or any of the blades may be made separately to collapse or expand at will.

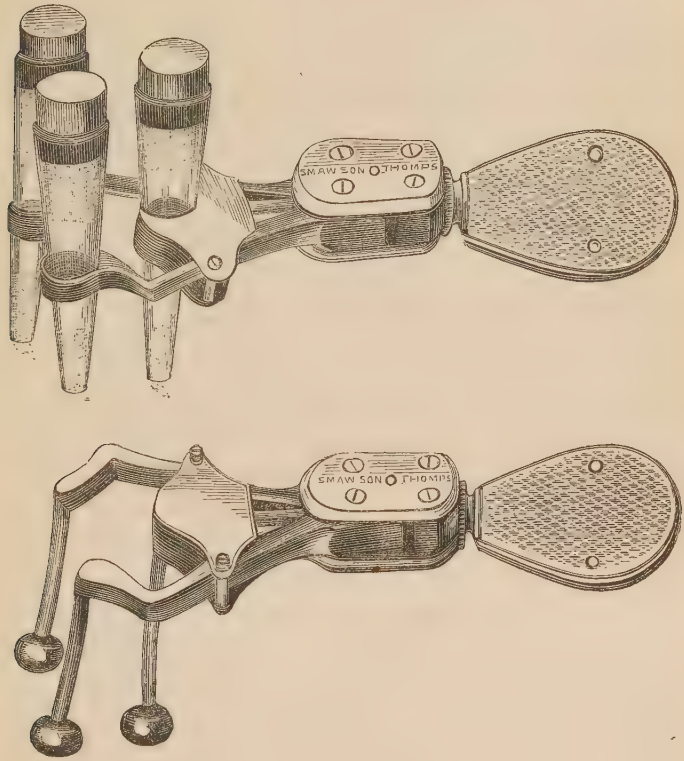
The advantages offered by this speculum are—1. Facility of use. 2. The power of expanding the upper part of the vagina around the cervix uteri, either partially on any side or completely, so as to expose it to view better than by any other means. 3. To open the os tincæ, so as effectually to show the condition of its mucous lining—each blade being a reflecting mirror, and the shaft of the cylinder being constructed on correct optical principles. 4. It facilitates the ordinary operations on the cervix uteri, as when the blades are expanded it retains, by itself, its position in the vagina.

This instrument, which has been manufactured by Messrs. Mayer and Meltzer, is the result of numerous experiments extending over more than two years. From his own experience of it, both in hospital and private practice, as well as from the opinion of others who have seen it in use, Dr. Protheroe Smith believes it will be found to be an additional means to aid the diagnosis and treatment of the diseases of the neck of the womb.

Dr. Heywood Smith mentioned, in corroboration of what had been said by his father, that he had used the new speculum many times in the hospital, and found that, whereas the ordinary cylindrical speculum, by pressing on the cervix uteri, necessarily excluded some portion of it from view, this one, when expanded, not only drew forward the cervix uteri, but revealed the whole of its external aspect, as well as afforded a free view of the cul-de-sac all round the uterus.

Dr. Whitehead exhibited two instruments for performing vaccination. He said that he had devised these

for performing vaccination by means of vesication, a plan first shown to him by Dr. W. S. Playfair. After several trials, Messrs. Maw, Son, and Thompson had produced the instrument he showed, by which vesication was produced by strong liquor ammoniæ. Having found that from two to three minutes were required to produce



this effect, the idea struck him that it might be done better and quicker by heat. He had the second instrument made, which vesicated instantly after being dipped in boiling water.

From January to March he had vaccinated nearly 250 children and adults by vesication by means of ammonia,

and 27 by the second plan. Dr. Whitehead thought that these instruments, when better known, would become general favorites. They answer completely when the ordinary methods of vaccination have failed, and are not so painful.

Dr. Playfair said that the instruments exhibited by Dr. Whitehead were ingenious contrivances for practising a method of vaccination by vesication which he himself had occasionally adopted with great success for several years. He originally took the idea from the plan of removing the cuticle by ammonia, recommended by Trousseau in his 'Clinical Medicine,' to facilitate the absorption of morphia in neuralgia. He, however, never had devised a special instrument for the purpose, using any tube of small diameter, such as a quill cut transversely. Into the extremity of this a small piece of cotton saturated in strong liquor ammoniæ was placed, and the tube was then held on the arms for between two and three minutes. On being removed the arm was rubbed with a handkerchief, when a circular piece of cuticle, the size of the tube, came off. On this the vaccine was placed, and absorption could not fail to take place. In this way he had repeatedly succeeded in children when the ordinary method had failed. He did not always adopt it, however, as it was more troublesome than scarification. It seemed to him, however, far preferable to the method of vaccination by vesication with cantharides, recently so strongly advocated in the public press, as one sitting only was required.

Dr. Heywood Smith exhibited, as he said, "a thing without a name," which had been given him by an instrument maker. It might be called a marine vaginal irrigator. Being passed into the vagina, and secured there by a tape, it was supposed to allow the sea water, during bathing, to flow in and wash out the vagina. It consisted of a conical "thing," made of gum elastic, closed at one end, and closely perforated with holes to permit the passage of the sea water.

NOTE ON THE BURSTING OF INTRA-PERITONEAL HÆMATOCELE INTO THE PERITONEAL CAVITY.

By Robert Barnes, M.D., F.R.C.P.

In the course of the discussion on hæmatocele which took place at the last meeting of the Society, Dr. Snow Beck contended that the practice of puncturing the tumour was indicated because bursting of the hæmatocele into the peritoneal cavity was frequent. I challenged this assertion. Dr. Beck has since referred to one case in Dr. West's work on 'Diseases of Women.' This case seems clear from ambiguity. I find there is another case cited by Tuckwell as having occurred in the practice of Seyfert. In this case rupture of the blood-cyst took place in consequence of a violent emotion. The possibility, then, of this catastrophe is beyond dispute. But until it be established by the multiplication of cases that this termination of hæmatocele is a very probable one, it can hardly be admitted to dictate resort to puncture of the sac. Probability, as far as our present knowledge goes, is greatly in favour of the elimination of the blood-mass of encysted hæmatoceles by absorption or by spontaneous opening through the rectum or vagina. My own observations lead me to the opinion that the true indications for puncture are constitutional evidence of blood-poisoning from alteration in the blood-mass of the tumour; or distressing pressure upon the bladder and other pelvic viscera; and that in those cases where there is no evidence of such conditions the prospect of recovery is in no sensible degree enhanced by puncture, and that the practice, therefore, is to be shunned simply because too much diligence is bad.

Dr. Protheroe Smith agreed with Dr. Barnes in thinking the accident of a circumscribed pelvic hæmatocele bursting into the abdomen and producing the active and dangerous symptoms which mark that malady a rare one. In illustration of the disease,

he mentioned three cases, one in which the retro-uterine tumour was very extensive, and which suddenly disappeared and was succeeded by acute peritonitis and effusion of lymph, which proved fatal in a few days. In another instance, in which the same occurrence took place, there supervened active peritonitis and effusion of lymph, followed by ascites; the patient succumbed to the consequences—extensive effusion of lymph and marasmus—in about eighteen months. In both the condition was verified by autopsy. In the third case, which occurred lately in the Hospital for Women, the retro- and latero-uterine tumour was considerable. Having postponed the operation of tapping for three days, the swelling in the meanwhile suddenly disappeared; this occurrence was attended with general abdominal tenderness and tumefaction, with tympanitis, quick pulse, and other indications of peritoneal inflammation; from this condition she recovered, and after several weeks the post-uterine tumour reappeared, when I withdrew six ounces of fetid pus by means of my exhausting needle trocar or "aspirator." By it every particle of matter and gas was sucked out so completely that perfect collapse of the sac took place, there was no re-formation of pus, and the patient left the hospital apparently perfectly well.

ON A CASE OF SUDDEN DEATH AFTER DELIVERY.

By W. S. Playfair, M.D., F.R.C.P.,
ASSISTANT OBSTETRIC PHYSICIAN TO KING'S COLLEGE HOSPITAL; PHYSICIAN TO THE EVELINA HOSPITAL FOR SICK CHILDREN.

The following interesting and melancholy case of sudden death in the puerperal state has recently occurred in my practice, and, although it is incomplete in so far that I have been unfortunately unable to verify the cause of death by a post-mortem examination, it is so characteristic an example of death from obstruction of the right side of the heart and pulmonary arteries, and illustrates so well the peculiarities of that most important accident of the puerperal state, every instance of which ought to be carefully recorded, that I make no apology for bringing it before the Society.

On the 3rd of March I attended in her confinement a French lady, thirty years of age. She was a remarkably handsome, well-formed, and healthy woman, who had been married for several years without ever before being pregnant.

The case gave rise to some anxiety, not from anything connected with the patient's health, but rather from apprehensions as to her mental state, as she had been a terrible sufferer from the war. Her husband and brother had been killed at Sedan; her father had died with the army only a few days before that battle; and she had been reduced from great affluence to temporary embarrassment from the fact that all the rest of her family had been shut up in Paris during the siege. Under such distressing circumstances one could not help having some doubts as to the result of her labour.

Everything, however, went off in the most typically healthy way. She was not ill for more than three hours, and she promised to convalesce in the most satisfactory manner. For the first ten days after her delivery no woman could have gone on better. She ate heartily, slept well, and felt stronger and more cheerful than she had done for months. On the tenth day she was moved to the sofa. She seems unfortunately to have got a chill by having her couch placed in a draught between a window and door, for when I visited her on the eleventh day she complained of pain under the right mamma, and of inability to take a deep breath. Her respirations were 40 per minute, the skin hot, and the pulse 100. On auscultation over the seat of pain a distinct, though faint, grazing friction sound was heard. A sinapism was applied, followed by linseed meal poultices, and a sedative mixture ordered. Next day she was much better, and on the day following the threatened pleuritic attack had passed off. Her respirations, pulse, and the temperature were quite normal, she could breathe deeply without any pain, and felt annoyed at being confined to bed. On Saturday the 18th March she was so well that I did not consider it necessary to see her the next day, but recommended her,

much against her will, to remain in bed until the Monday. On the Sunday night she slept well, and on the morning of the 20th, the seventeenth day from her confinement, after a hearty breakfast, she talked cheerfully for more than an hour with some friends, and tried to persuade the nurse to let her get up, which she was not permitted to do. About 12 o'clock she was sitting up in bed giving some directions to a dressmaker, when she suddenly placed her hand over her heart, and said she could not breathe. The nurse thought she was fainting, gave her some ether and brandy, and immediately sent off for me. For about five minutes she struggled violently for breath in a sitting posture, her face having assumed a livid purple hue, which was so remarkable as to attract the attention both of the nurse and of her mother, who was with her. She then fell back dead, and I am assured that certainly not more than five minutes had elapsed between the commencement of the breathlessness and her end.

I could not persuade her friends to allow an autopsy, but I think there can be no reasonable doubt as to the nature of the case.

What had occurred seems to me to have been this.

The slight pleuritic attack had produced an increased hyperinosis of the blood, over and above that already existing from the alteration of the blood due to the puerperal state. Hence the coagulation, which probably might not have occurred had it not been for the apparently trivial and temporary pleuritic mischief, which, under ordinary circumstances, would have given rise to no anxiety.

The lesson to be learnt from this melancholy case seems to me to be that we must attach much more serious importance to any inflammatory complication occurring after delivery than we have been perhaps in the habit of doing, on account of the risk involved by the increase in the amount of fibrine it determines in blood already overcharged with it.

In the absence of post-mortem examination it is impossible to say whether this was a case of true embolism, or of thrombus forming *in sitû* in the right side of the heart

and pulmonary arteries. My impression is that it belonged to the latter class of cases, because, as I have elsewhere tried to show from the analysis of 25 cases of sudden death from pulmonary obstruction,* true embolism does not occur until after the nineteenth day from delivery, generally not until a much later period than that, and this because a considerable time is required for the thrombi in the peripheral veins, from which an embolus is derived, to soften and disintegrate sufficiently to admit of a portion being detached, and carried to the right side of the heart. Whereas, in death happening shortly after delivery, I believe the coagulation in the pulmonary arteries to correspond to the formation of the original thrombus in the peripheral veins, which must of necessity occur in true cases of embolism. I am aware that several eminent pathologists deny the possibility of a thrombus forming in the right side of the heart or pulmonary arteries. I cannot now trespass on the time of the Society by discussing this important point, about which there is much to be said. I need only observe that, putting theoretical views as to the strength of the blood-current in the pulmonary arteries preventing local clotting out of consideration, we have the right to insist that no case shall be considered one of embolism unless a peripheral thrombus, from which an embolus could come, can be found. In many of the cases brought forward as due to embolism nothing of the kind was met with. For my own part I believe there is nothing in the anatomical conditions of the pulmonary arteries to render clotting less likely there than in other parts of the vascular system in which venous blood circulates; rather the reverse. This is, however, a question more interesting from a theoretical than a practical point of view.

I shall be content if this case shall be considered as teaching the lesson I draw from it, that trivial inflammatory complications after delivery may give rise to serious

* "Observations on Thrombosis and Embolism of the Pulmonary Arteries as a cause of death during the Puerperal State."—'Lancet,' July 20th and 27th, and August 10th, 1868.

and fatal consequences, which would not attend them under ordinary circumstances; and that they must, therefore, be regarded with a suspicion and anxiety which they themselves would not justify.

Mr. Scott had in his recollection three cases which bore out the correctness of Dr. Playfair's view of the important bearing of the occurrence of inflammation on a system previously debilitated by illness. In these cases, which were not parturient, but suffering from some affection of the uterus or its appendages, more or less severe, peritonitis supervened, and in each case sudden death occurred after making some exertion in bed. In each case a distinct fibrous clot was found in the pulmonary artery. Mr. Scott considers perfect quietness so essential in these cases, that he now makes it a rule that such patients should not be allowed to feed themselves or to make any movement that could possibly be avoided.

Dr. Routh asked Dr. Playfair whether in the chest examination made the heart had also been examined. The symptoms might have been those of cramp or spasm of heart. Then there was another practical lesson to be learnt from the case. If the slight pleuritic attack produced the hyperinosis, then it pointed out the advisability of giving frequently in these cases such salts as could dissolve fibrine as medicines; for instance, the subphosphate of soda (the natural blood solvent), alkalies generally, and ammonia in particular.

Dr. Wiltshire expressed his adherence to the view enunciated by Dr. Playfair. Seeing the frequency with which Bright's disease is complicated by pleurisy, he would ask whether the urine was examined. Dr. Wiltshire further remarked that the hyperinotic condition of the blood was probably suddenly augmented by the hearty breakfast of which the patient had partaken shortly before her seizure. With respect to treatment he thought that alkalies, and especially potash, were indicated when the blood was known to be in a state of hyperinosis.

Dr. Playfair said that the subject of this case had been a typically healthy woman, and there never had been the least reason to suspect the existence of old-standing heart disease. The pleuritic symptoms, also, had been so slight as to give rise to no anxiety. So far as he knew no one had before suggested the danger of slight inflammatory attacks of this nature favouring the production of thrombosis, and, therefore, no special remedies had been used with the view of diminishing the hyperinotic state of the blood. Under similar circumstances Dr. Routh's suggestion of administering alkalies might be tried, but he greatly doubted its being of any service.

ON THE DIAGNOSIS OF THE LEAST KNOWN VARIETIES OF UTERINE INFLAMMATION.

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With a moderate amount of care to apply the knowledge accumulated during the last fifty years, there ought to be no difficulty in establishing the correct diagnosis of diseases of the neck of the womb; whereas the inflammatory affections of the body of the uterus are sometimes so difficult to diagnose, that it will be useful to pass these difficulties in review. One of the reasons why the more frequent and less acute varieties of inflammation of the body of the womb often remain long unrecognised is, the fact of their frequent coincidence with cervical inflammation sufficiently severe to justify a practitioner in seeking for no other explanation of the symptoms, until he finds that cervical lesions are yielding to treatment without improving the patient's condition, in which case, if he looks further, he will often find chronic inflammation of the body of the womb, or else internal metritis. It is, therefore, well to suspect one or the other of these complaints whenever uterine disease is of very long standing, and when the symptoms are unusually eccentric, and only to promise a speedy cure in case the cervical lesions are not backed by deeper mischief.

The practitioner may, however, tell the patient that this temporary uncertainty of prognosis implies no uncertainty respecting the best means of cure, for to remove disease of the cervix is undoubtedly the first step towards curing the body of the womb, nothing else being required in many cases. In order to diminish the difficulties that beset the diagnosis of inflammation of the body of the unimpregnated womb, I will ask you to help me to solve the three following questions :—

1st. Whether the body of the womb may be inflamed in

the entirety of its organism, and what are the signs by which the disease can be recognised?

2ndly. Whether each of the chief constituent tissues of the womb may not be separately inflamed, and how these affections may be recognised?

3rdly. Whether a limited portion of these uterine constituents can be so inflamed as to constitute a disease susceptible of being distinguished by special signs, from inflammation of the rest of the uterine tissue to which it belongs?

1st. In answer to the first question, it seems to me that all the uterine tissues are more or less inflamed, both in super-acute, in acute, and in chronic metritis. Acute inflammation of the unimpregnated womb is an exceedingly rare disease, and will be easily recognised as the cause of high fever and distressing vomiting, by the situation of the pain in the hypogastric region just above the pubis. The sudden advent of this pain, its fearful acuity, paroxysmal exacerbations, tenesmoid quality, and the difficulty in assuaging it by opiates, should prevent the disease being confounded with any other. There is, moreover, a serous or serosanguinolent discharge from the cavity of the womb, scalding the vagina, excoriating the pudenda and the surrounding skin. I do not see the use of making even a digital examination of the vagina in such a case, and to use the uterine sound would only aggravate the patient's sufferings, without giving greater certainty to the diagnosis. This is fortunate, as the disease may attack virgins; indeed, the worst cases of acute metritis that I have met with, occurred in unmarried women, aged 23, 29, and 32.

For the foregoing reasons I am not able to speak accurately respecting the increase of size of the womb in these very acute cases; but in less severe cases I have known the womb to attain the size of an ostrich egg, and as I could only introduce a wax bougie to the depth of three inches and a half, and as the womb recovered its normal size, without expelling blood clots, I take it that the increase of size was due to acute hyperæmia, or inflammation of the uterine walls.

In two cases I have seen a womb of the average size become as large as an ostrich's egg in forty-eight hours. I do not know whether this rapid increase has been noted by writers, but an intelligent Indian Army Surgeon, Dr. Trestrail, has lately told me that he once witnessed a still larger increase of size of the womb in a similarly short space of time. In this case a very rapid decrease of size coincided with the daily free application to the cervix of iodine and belladonna ointment.

Chronic metritis is as frequent as acute metritis is rare; it often originates inflammation of the cervix, keeps it alive, and survives its cure. Chronic metritis has no characteristic pain, it is the variable back pain of uterine affections, variable in nature, amount, and in its seat, paralysing more or less the lower limbs. Neither is there any characteristic discharge, the muco-pus secreted by the body of the womb mixes with the secretion of the cervix in passing through it, and is taken to be the evidence of *uterine catarrh*. Chronic inflammation may lead to great enlargement of the womb, but frequently there is little increase of size, and this explains why the disease may remain hidden behind the self-asserting evidence of cervical enlargement and ulceration. I will not take up your time by stating how the size of the womb may be measured by the finger and by the uterine sound; I shall merely remind you that without that instrument it would be difficult for us to avoid the mistake into which Lisfranc often fell, who, notwithstanding the importance he attached to the digital examination of the womb, described as morbid growths of the womb, those uterine displacements that Velpeau was already teaching his pupils to recognise; flexions and versions which so frequently stand in relation to chronic metritis as cause or effect, or as both cause and effect.

Having ascertained, by the means with which you are well acquainted, that the womb is larger than usual, without there being any corresponding enlargement of the uterine cavity, it would be illogical to suppose the morbid state to be limited to the lining membrane of the womb, but it is not

easy to determine the actual state of the thickened uterine walls, and I have known the same case called congestion, hypertrophy, and inflammation by equally good observers. I can understand a permanent state of congestion of the uterine walls, but when congestion lasts for months, when the womb is very painful to pressure, and when this is accompanied by marked symptoms of uterine disease, I believe the uterine walls to be in a state of chronic or subacute inflammation, particularly when the finger detects a rounded swelling on some part of the body of the womb, which is not observed when the uterus is simply congested or hypertrophied. An hypertrophied womb feels hard and elastic, and pressure gives no pain; besides, subsequent examinations will enable one to recognise the persistence of a large hypertrophied womb after the subsidence of the more acute uterine symptoms.

2ndly. In answer to the second question, it is doubtful to me whether one of the uterine constituents can be long inflamed without the other uterine tissues participating to a certain extent in the same process, so when I talk of internal metritis, I only mean a case in which inflammation of the lining membrane of the body of the womb is the leading pathological condition, without denying that the adjacent tissues may be diseased. It takes considerable time to bring about that enlargement of the uterine cavity which is characteristic of internal metritis, and although chief importance is to be ascribed to the inflammation or ulceration of the mucous membrane which causes long continued abundant losses of serum, blood, or matter, still the permanently congested, or subacutely inflamed uterine walls should not be lost sight of, while, in some cases, slight pressure to the womb always gives so much pain and there is so much fever that I am forced to admit that the womb is acutely inflamed, though not so severely as in the form of metritis described as super-acute. In cases of long standing the uterine walls have been found thin and soft from fatty degeneration.

With regard to the participation of the peritoneal covering

with internal inflammation of the womb, I have not frequently observed it, and there was none in my worst cases of acute metritis. When I have met with peritonitis, it seemed to me to originate in ovaritis or morbid ovulation, and to extend to the womb, or else to pass to the peritoneum from the fimbriated extremities of the fallopian tubes, which accounts for the frequency of pelvi-peritonitis in prostitutes.

Taking into account all the cases in which the endo-womb is principally affected, internal metritis is a frequent disease, sometimes acute, oftener shading off into the chronic form by a tedious variety of degrees. When acute, the symptoms known as uterine are more severe, the back pain is more constant, and the patients cannot walk; any pressure on the abdomen increases uterine pain, and enormous quantities of bile are sometimes evacuated by the mouth or the rectum or by both passages. The uterine secretion varies, sometimes blood alone is passed, sometimes matter mixed with blood, or muco-pus, and the discharge scalds the pudenda whenever the complaint becomes more acute. The discharge may amount to a flooding, or come away gradually. Not unfrequently there will be no discharge, and then, after a considerable amount of pain, the patient will find herself wetted by pus, and pain will cease. I have known this to occur repeatedly in some women at two or three months' interval, and it may be considered to be pathognomonic of internal metritis. This abscess-like aspect of the complaint is more likely to be met with in its earlier stages, before inflammation has dilated the os internum, but it may occur at any time if there be stricture of the cervix. Sometimes pus and blood are passed at menstrual periods, and two patients, at the change of life, thus voided repeatedly (one six times in succession) about a small teacupful of red pus, at menstrual times and at none other.

It is sometimes possible to detect the increased size of the womb by pressing the hypogastric region, but, as a rule, this can only be ascertained by a vaginal or a rectal examination, which increases pain; and I have always found that

the uterine pain was greatly aggravated by any attempt to press the womb upwards with the finger. When introducing the uterine sound, it will be borne in mind that the sound ought freely to enter the womb to the depth of two inches and a half; if therefore it can be introduced to the depth of four or five inches, in the absence of fibroids or any unusual elongation of the cervix, the fact may be taken as evidence of internal metritis, when coupled with the symptoms I have just enumerated. The uterine sound will often make it clear that the womb is both enlarged and bent upon itself, and this angular flexion of the cervix is so obviously calculated to promote the distension of the womb by pent-up secretions, that it should be rectified by any means that will not increase the inflammatory process, which, by overweighting the body of the womb, is a very frequent cause of the uterine flexions.

I need hardly say that the sound should be gently used, for it would be often easy to perforate the softened and attenuated walls of the womb; and although I well know that this has been done with perfect impunity by Aran, as well as by Sir J. Simpson and Hildebrandt, still this accident has been known to cause the patient's rapid death by peritonitis, so it is obviously wrong to subject her to such a risk.

The earlier stages of intra-uterine fibroids and polypi may be easily mistaken for internal metritis; for as the same surface is affected, the symptoms are very similar. There may be frequent floodings, and sometimes, when flooding ceases, a purulent discharge, from the inflamed mucous membrane surrounding the attachment of the morbid growths. The growth of these bodies will clear up the difficulty of the diagnosis in most cases; and here I may remark, that like some other uterine affections, internal metritis is not a disease to be easily limited, but is rather to be considered as a succession of attacks and remissions, that may extend over several years. In such exceptional cases internal metritis will evoke strange symptoms, depending upon constitutional proclivities. Thus, in ten cases, I have known internal metritis to cause menstruation to be always attended by high fever, requiring to be

kept in check by digitalis. Frequent vomiting, that nothing could quell, except ten-grain doses of calomel, or the application of leeches to the epigastric region, is not an uncommon symptom of recurrent internal metritis.

You are well aware how this disease lowers the energy and deranges the harmonious action of the several centres of nervous power, causing cerebral neuralgia, hysterical excitement, or pseudo-narcotism, spinal irritation, with more or less paraplegia, and sometimes unexplained fits of exhaustion, requiring large doses of stimulants to save life.

Most of these cases ultimately get well, but some continue to suffer in the same way, only to a less extent. The muco-purulent secretion of the cavity of the womb mingles with the cervical secretion, and the patients are again said to have uterine catarrh. In rare cases, at the change of life, the endo-womb remains diseased after the cervix has become impervious, and morbid secretions accumulate in the womb. I account in this way for the sufferings of three patients who, about every six months, have considerable pelvic fulness and bearing-down pains. I have not thought it right to re-establish the freedom of the cervical canal in these cases, but it may be necessary to do so to prevent the rupture of the womb, and the effusion of its contents into the peritoneum, which has been known to cause death.

3rdly. Can the inflammation of a limited portion of one of the uterine constituents be revealed by symptoms that enable us to distinguish it from inflammation of the remaining portion of the same constituent tissue? I think not, and that my friend Dr. Routh has attempted the impossible, when last year he tried to show that "fundal endometritis was a disease distinct from internal metritis." Now that Dr. Routh's views have been published in the last volume of our 'Transactions,' it is fair to see how far they stand examination, particularly as they have been adopted by Dr. Marion Sims. Were I asked to say what part of the endo-womb is most liable to inflammation in internal metritis, I should say the posterior part of the uterine cavity, because the placenta most frequently attaches there, because fungoid

ulceration has been most frequently found there, and because I have repeatedly observed that the origin of internal metritis was a confinement, after which the placenta had been with difficulty torn away. I would not, however, think of contesting that the lining membrane of the fundus may not be occasionally the chief seat of inflammation; all I mean to maintain is, that it can only be made known to us by the very same signs and symptoms that I have just passed in review, as those of internal metritis.

I think those who will take the trouble to compare Dr. Routh's cases with the illustrations of internal metritis in my work 'On Uterine Inflammation,' will agree with me that we have described the same disease. They will find the same liability to menorrhagia in some; in others the same tendency of the discharge to be pent up, and to be repeatedly expelled after great pain; while in other cases of his and of mine the discharge became intensely acrid. I might here dismiss the subject, but my respect for Dr. Routh makes it incumbent on me to consider some of the points on which he relies to support his diagnosis.

He considers "fundal endometritis" may be recognised on severe pain being determined by pressure against the spine, with the united fingers held perpendicularly to the abdomen. Dr. Routh attaches so much importance to this kind of suffering, that he actually calls it "fundal pain;" whereas I submit that severe pain may be thus determined, whatever may be the kind of acute pelvic inflammation the patient may be suffering from—uterine, ovarian, vesical, or peritoneal.

Dr. Routh also states that fundal endometritis may be inferred from the fact that great pain is experienced when, to use his own expression, "the uterus is pressed up, or made to play rather harshly on the finger," as if the same proceeding would not intensify the pain arising from any kind of acute uterine inflammation, as well as the pain arising from ovaritis and pelvic peritonitis. Dr. Routh also looks upon it as irresistible evidence of inflammation being confined to the lining membrane of the fundus, that positive

agony should be felt, together with vomiting, fainting, hysterical, or epileptic fits "when the end of the sound is pressed forcibly against the fundus;" but it seems to me that it is impossible to press forcibly against the fundus without putting the totality of the inflamed womb on the stretch, and that the same symptoms would have followed the forcible pressure of the sound against any other part of the internal surface of the womb. I feel confident that the uterine sound is harmless in Dr. Routh's hands, but I deprecate this forcible pressure of the sound on any part of the inflamed womb, for even if its walls are not so softened as to allow them to be easily perforated, forcible pressure on any part of the womb is sure to aggravate internal metritis, and is likely to develop, in predisposed subjects, not only fainting and vomiting, but also those hysterical, epileptoid, or cataleptic fits, that will occasionally follow the use of the uterine sound, even when the womb is not inflamed. In conclusion, I think we ought to reason on this last supposed sign of "fundal endometritis," just as the surgeon does when he sounds the bladder for stone. He does not expect to give great pain on entering the bladder, and if a prolonged and careful examination should be followed by very severe pain, he merely concludes that he has wounded an irritable bladder, and he does not see the evidence of a new disease in the pain that he has himself determined.

The PRESIDENT said that he had always felt some difficulty in cases where abrasions of the os coexisted with enlargement of the uterus accompanied by leucorrhœa, pain, &c., how far to attribute these symptoms to the existence of inflammation or to consider them the effect of reflex irritation. He called attention to the effect produced on the tongue by a fissure or sore. He had watched the phenomena in himself. When a fissure, however small, occurred, the whole of the tongue on that side became swollen, tender, the papillæ injected, red, and prominent; a quantity of saliva was poured out, and talking, &c., became painful. If, then, the fissure were touched with nitrate of silver, within a quarter of an hour the symptoms began to subside, and generally had ceased by the end of half an hour. Let the know-

ledge of this phenomena be applied to the uterus. The os being abraded, and the nerves thereby exposed to irritation, a similar condition is set up in the uterus as in the tongue, and thus it becomes difficult to distinguish the condition from that which is called chronic metritis. But that it is due, in a large number of cases, to reflex irritation rather than to so-called inflammation, the President was quite assured; an excellent instance of which came under his care lately, where the application of tincture of the muriate of iron to the cervix only once completely cured the symptoms he had alluded to. He thought it mattered not much what styptic was employed so long 'as it was well applied. Latterly he had employed the muriate of iron with much success. These remarks were of course, applicable to only a portion of the author's paper.

Dr. Playfair said that he would venture to make one criticism on Dr. Tilt's very valuable paper, viz., that he underrated the importance and frequency of morbid conditions of the mucous membrane lining the cavities of the cervix and uterus. Of course the precise pathological condition of the various uterine structures in obstinate and long-standing cases of disease must always be, more or less, a matter of conjecture, and he did not doubt that the body of the uterus was often largely involved. Still, it was known that there were grave alterations very generally present in such portions of the mucous membrane as were accessible to sight, such as erosions, and granular and villous hypertrophy. It was reasonable to infer that, by continuity of tissue, similar alterations existed in the more deeply seated portions of the mucous membrane. It had long been an established axiom in therapeutics that the nature of a disease could often be ascertained by the effects of remedies. He believed that all who had tried the effects of intra-uterine medication in such cases, a plan much used on the Continent and in America, but as yet little known in this country, would bear witness to its very remarkable curative power. By adopting it in well-selected cases it was very rare not to effect a cure, and he had had many women under his care who had been the round of various hospitals without benefit under the usual treatment, and who had been speedily and effectually cured. The application of remedies by probes wrapped in cotton and saturated in any of the solutions employed, such as a solution of carbolic acid or tincture of iodine, was an easy matter when the case was suited for such treatment, as the internal os was always morbidly patulous. One of the first symptoms of improvement was the closure of the os, rendering it more difficult to pass the probes.

Dr. Routh, in thanking Dr. Tilt for his courteous remarks on his (Dr. Routh's) paper on "Fundal Endometritis," regretted he had not fully endorsed his views. The body was but a limited

portion of the uterus, whereas, in these cases of enlarged uterus, with internal metritis, it was, as in pregnancy, the *fundal* portion that increased. To deny that this part might be exclusively attacked with inflammation, he believed to be contrary to clinical observation. Take an ordinary case of retro- or ante-version. How many women went about in such conditions, apparently perfectly without pain? But in other cases, as indicated by pain on pressure over the fundus through the abdomen or vagina—by the passage of the sound, only painful when it reached the fundus—by the pain during connection—by the quantity of uterine leucorrhœa and inability to walk comfortably, it was clear there was something more than mere cervical inflammation. This was *fundal* endo-metritis. Looking, however, to the nature of the nervous connection of the fundus with the renal plexus of nerves, and the indirect connection with the semilunar ganglia, there was *à priori* evidence that we might expect more general, and those more severe, symptoms, than when the *body* only or *cervix* was attacked. Then he could not but take exception to the statements made by Dr. Bennet. He (followed by Dr. Tilt) was the man who had acted as a pioneer in womb diseases, when as yet the inquiries made by others were in their infancy, and thought improper. We had only further developed his views, and therefore he (Dr. Routh) must speak with diffidence. But he could not conclude that because a uterine disease was cured by active measures to the cervix, therefore the disease was in the cervix. The blister or cauterization of the cervix (being the most readily accessible part of the uterus), relieved not only the cervix but the whole organ, and the fundus among other parts. Again, the *special muscle* at the internal os he had never found, nor had Dr. Savage. It was merely a part of the circular uterine fibres, occasionally liable to severe inflammatory lesions and most agonising pain. Such cases were, so far as he knew, incurable. He had tried at this internal os the free use of caustic, potassa fusa, the hysterotome, blisters, &c., and failed to cure. Dr. Tilt had not even specified this form of disease, which was one of body and cervix, at their point of union exclusively. Nor had he ever found any one who could cure it, although he had asked far and wide. That the fundus, however, could be as exclusively affected as parts of the brain or heart, and give specific symptoms, he was himself convinced; moreover, it was confirmed by all analogy.

Dr. Henry Bennet thought that Dr. Tilt had very tersely and correctly delineated the main features of obscure uterine inflammations. He would have wished a little more stress to have been laid, when speaking of the difficulties of diagnosis, on defective involution, or reduction of the uterus after parturition. This arrest of uterine involution was much more frequently the cause of increase of size of the uterus in child-bearing women

than actual inflammation, a fact which led to frequent errors of diagnosis. It was also a fertile and frequent mechanical cause of uterine displacements and flexions of all kinds, prolapsus, retroversion, &c. For many years he had carefully weighed the uteri of all the child-bearing women who died under his care, and found that, in all who presented lesions of the cervix, lacerations, excoriations, ulcerations subsequent to parturition, the uterus had not returned to the natural weight of an ounce and a half, weighing two, three, four, or even more ounces. This investigation, indeed, he long carried on with the same result in the dead-room of St. George's Hospital, after Dr. Robert Lee made his well-known assertion that ten thousand post-mortem observations had been there made without revealing any inflammatory lesions of the cervix and its cavity. It was needless to add that he frequently found such lesions in child-bearing women between the ages of twenty and forty, as have done all pathologists who have sought for them. He thought that Dr. Tilt was scarcely warranted in saying that internal metritis, or inflammation of the lining membranes of the uterine cavity, in non-parturient women was a common disease. If confounded with inflammation of the mucous membrane lining the cervical cavity, as it was generally confounded by French and other authors, of course it would appear to be frequent; but if the distinctions he had pointed out more than twenty years ago were accepted and adhered to, internal metritis would be found a rather exceptional and rare form of uterine inflammation. The principal diagnostic signs, in his experience, were a patulous state of the os interum, an enlarged state of the uterine cavity, and a muco-sanguinolent discharge. The inflammation, when it passed into the uterine cavity, seemed to paralyse and relax the cervical muscular fibres which constitute what he had termed the sphincter of the uterine cavity. In reply to some remarks by Dr. Routh, Dr. Henry Bennet explained that he had never stated or published that there was a distinct demonstrable muscular sphincter existing at the line of demarcation between the uterine and the cervical cavities. What he had stated was that the circular fibres of the cervix in this region vitally contracted during life, so as to form a kind of sphincter comparable, in this sense, to the sphincters which close other cavities, such as the stomach and the bladder. In health the sound meets with resistance in this region, and this resistance is not a morbid condition. After death the vital contraction passes away, ceases to exist, and the sound can be passed without difficulty into the uterine cavity.

Dr. Fordyce Barker, of New York, being called upon by the President, said that he had not anticipated taking any part in the discussion, but was present simply as a listener, For years he had watched with great interest the proceedings

of the London Obstetrical Society, whose valuable contributions to science now formed so many volumes of 'Transactions.' The paper which had been read discussed a most important and most obscure class of affections, and a class the most unpromising in their therapeutical results. He could give his full assent to most of the statements and doctrines contained in it. He, however, understood the writer to speak of acute non-puerperal metritis as a very rare affection, and this seems to be also the opinion of the great majority of writers on this subject. But he would suggest that the cases of sudden suppression of the menses, attended with intense uterine pains and other pelvic symptoms, with fever, quick, hard pulse, headache, sometimes more or less cerebral disturbance, are not very rare, and that they are really cases of acute metritis, which terminate frequently by resolution, leaving no permanent lesions of the organ. Dr. Barker could hardly understand the term fundal endometritis. The distinction between inflammation of the lining membrane of the cervix and the lining membrane of the uterus could readily be understood, as the histological and physiological differences between the two membranes has been demonstrated and is now accepted in science. But if the term fundal endometritis implied a difference which could be recognised, and which requires different therapeutical measures from chronic inflammation of other parts of the body of the uterus, he could not comprehend it. He had as yet only seen the abstract of Dr. Routh's paper as given in the London Medical Journals, and when he had the opportunity of reading the paper in full in the 'Transactions,' he should hold himself ready to be convinced of the soundness and the importance of his distinction. But from the remarks which he had just heard he would infer that Dr. Routh laid great stress upon the pain, its development by a peculiar manipulation, and its locality, and also upon the pain produced when the point of the uterine sound reaches the fundus, as the most prominent symptoms which determine the existence of fundal endometritis. But he would ask whether pain is not the most fallacious of all symptoms in establishing the existence or the character of uterine disease. His experience had been large in two extreme classes of society. In a large hospital service among poor women, whose nervous sensibilities had been blunted by their habits of life and their social condition, he had often been struck by the very trivial amount of pain complained of, even where, in various forms, the most severe uterine disease existed. But in the higher walks of life those who had an abundance of time to watch their sensations often complained of the most severe and constant pains, referred to the uterus, when very slight organic lesions of the organ could be detected. Have not all of us seen cases where ladies have been wretched sufferers

for years, baffling the treatment of the most skilful and experienced in the management of these affections, in which death having occurred, no autopsic lesion could be discovered in the uterus or other pelvic organs sufficient to explain the symptoms during life? Again, as regards the pain produced by the introduction of the sound, is it not the usual fact, that when the sound is introduced for the first time, and the point reaches the fundus, pain, sometimes very severe and persistent, is complained of, while in these same persons a tolerance of the instrument is acquired after it has been introduced a few times and no pain is complained of? It, therefore, seemed to him (Dr. Barker) that the significance of pain as a diagnostic symptom depends upon its association with the physical signs, and its coincidence with, or the absence of, other symptoms.

Dr. Protheroe Smith, in reference to the remarks of Dr. Fordyce Barker, observed that he fully recognised the active metritis so ably described as the result of cold or local injury to the uterus, of which he had seen several instances; but in none had he remarked the cerebral disturbance alluded to, but, on the contrary, there had been a marked absence of such symptoms. He thought there was, however, a manifest distinction between this active inflammatory disease, which usually implicated not only the uterus, but its appendages and adjuncts, and the milder and more chronic affection of the lining membrane and immediately adjacent tissue, which he recognised as the subject both of Dr. Tilt's paper and that of Dr. Routh. At this late hour of the evening he would only briefly say that the distinctions drawn by these authors as to endometritis involving the cavity of the body and fundus in contradistinction to a similar affection of the cervix, that, regarding the uterine canal as a whole consisting of vagina, cervix uteri, body, fundus, and fallopian tubes, there were corresponding differences in the symptoms marking the occurrence of inflammatory and catarrhal affections of these different parts, as, for instance, when the tubes were primarily affected the discharge was watery and colourless, and ejected spasmodically, with painful expulsive efforts, whilst, when the cavity of fundus and body was attacked, it would be productive of considerable suprapubic pains and irritable bladder; and at first the discharge would be thin, but often tinged with blood, though as the deeper tissues became implicated it would assume a more thick and tenacious character; so the same state attacking the cervix was marked by its own symptoms as tumefaction, everted lips, granular disease, and the glairy secretion, which characterises this affection and stops up and hangs out of the os. Yet such divisions and distinctions, if the disease was allowed to run its course, soon merged into one, affecting the entire canal, when such distinctions, as far as treatment was concerned, were unavailing and useless.

Dr. Wiltshire said they had heard much about local treatment, but he would also like to hear Dr. Tilt's views upon the general treatment of uterine inflammations.

Dr. Tilt said he could not better answer several of the speakers than by reminding them of his having distinctly stated in the beginning of his paper that the best mode of curing all inflammatory affections of the body of the womb was to cure whatever inflammation existed in the cervix. He did not see how he could express himself more strongly in appreciation of the value of treatment directed to the cervix, but he often found this was insufficient to cure chronic metritis and internal metritis, and he had become more and more convinced that all future improvement of uterine pathology lay in the study of the inflammatory diseases of the body of the womb. With regard to his dissent from the views entertained by Dr. Routh respecting fundal endometritis, Dr. Tilt said he would not waste time by repeating the arguments set forth in his paper, or those so well put by Dr. Fordyce Barker; the whole question was now placed before the profession, and Dr. Tilt confidently left it to be settled by future observers.

OCTOBER 4TH, 1871.

J. BRAXTON HICKS, M.D., F.R.S., President, in the Chair.

Present—41 Fellows and 4 visitors.

Books were presented by Dr. W. A. Guy, Dr. E. Parsons, Dr. Shortt, Mr. W. Whitehead, Prof. Fabbri, Dr. Sänger, Dr. Spiegelberg, Dr. Vecchi, the Staff of St. Thomas's Hospital, Queen's College, Galway, and the Smithsonian Institute.

John W. Taylor, M.D. (Scarborough) was elected a Fellow of the Society.

Dr. BARNES presented to the Society on behalf of Dr. Boddaert, of Brussels, the lever employed by Dr. Boddaert; also a memoir on the rational use of forceps and lever by the same gentleman. Dr. Barnes drew attention to the form of the lever, which was a solid bar nearly straight and without fenestra. He pointed out that such a bar could only be a lever, and in no sense a tractor. Increasing the curve could not alter this lever character. The lever was much used in Belgium in cases where here the forceps was preferred. Dr. Boddaert applied the lever in many cases of delay of the head at the brim.

Dr. Barnes also exhibited a specimen of an iliac artery obstructed by a clot. The case was described by Mr. Williams, of Truro. The subject was seized during an abortion, with prostration, coldness, failure of pulsation, and gangrene of the leg of the side on which the artery was plugged.

Mr. Spaull presented for the inspection of the Society a preparation of a child at the full period of gestation, having a hydrocephalic head. Its history is thus told. He was called to attend Mrs. —— in her first confinement. She was a lady rather above the usual height, well formed, and thirty-five years of age. Labour commenced on the afternoon of February 11th, 1871. The pains were frequent and strong, and on examination the os uteri was yielding and soon disappeared. The part presenting was the breech, the lower extremities were soon gained, the body was expelled, the upper extremities were brought down without much difficulty, and a rapid termination of the case was expected; but although the pains were good, and as much traction was applied as was safe, no progress was made. It was thought desirable to obtain further assistance; Mr. B. E. Spaull was sent for, with a request to bring with him the case of obstetric instruments. He arrived at 6.15 p.m., and it was agreed that cephalotomy was necessary. Upon the introduction of the perforator a gush of a transparent fluid squirted over the bedroom, which, continuing to flow, soon caused a collapse of the cranium, and without violent traction the birth was completed. The placenta soon followed, but by this time the patient was much exhausted, but, upon the whole, made a rapid and good recovery. The dimensions of the head were subsequently taken and found to be from the chin round the vertex twenty-eight and a half inches, and the circumference just above the orbits, round the occiput, twenty-nine and a half inches, but as it was not fully distended, it must have been considerably larger in utero.

Mr. Spaull said he had been induced to bring this specimen to the meeting, as it was an unusual one, and he had not met with a parallel case during a practice of more than forty years.

Mr. Mitchell observed that he had met with several cases in his practice, some treated from the beginning of labour by himself, and others, in which he had been called in to deliver, after prolonged labour, in all of which the mothers had done well.

In every case he had perforated and delivered by the forceps, all having been head presentations. The most remarkable of these was the case the particulars of which he gave to this Society in a paper read before it in November last, in which the attendant practitioner, from not having diagnosed the true character of the case, had allowed it to progress in a condition of expulsive labour from Monday afternoon to Sunday afternoon—a period of six days—when exhaustion and convulsions came on; and immediately he saw the case, he delivered by perforation and the forceps, when not much less than a quart of fluid escaped. The case made a good recovery in spite of the disastrous condition which had been allowed to approach through improper delay in the delivery.

Dr. Murray remarked that, in dealing with cases such as the one just related, much diagnostic information can be obtained by placing the hand on the lower part of the abdomen and feeling the unusual size of the uterus after the birth of the extremities and body of the child had taken place. It was necessary, however, to bear in mind the possibility of the existence of twins; but in that case the uterus would be much larger than when distended by the hydrocephalic head alone.

ON THE CONTRACTIONS OF THE UTERUS THROUGHOUT PREGNANCY: THEIR PHYSIOLOGICAL EFFECTS AND THEIR VALUE IN THE DIAGNOSIS OF PREGNANCY.

By J. Braxton Hicks, M.D. Lond., F.R.S.

LECTURER ON MIDWIFERY AND DISEASES OF WOMEN, AND PHYSICIAN ACCOUCHEUR TO GUY'S HOSPITAL; PHYSICIAN TO THE ROYAL MATERNITY CHARITY; EXAMINER IN MIDWIFERY AT THE ROYAL COLLEGE OF PHYSICIANS, LONDON, PRESIDENT OF THE SOCIETY, ETC. ETC.

I am anxious to direct the attention of the profession to a point connected with the pregnant uterus, which has been almost entirely and surprisingly overlooked, as far as my researches into authors lead me to believe. Perhaps the following quotation from Dr. Tanner's work 'On the Signs and Diseases of Pregnancy,' p. 118, 1860, will best show the state of our knowledge and the authors who have alluded to the subject:

"More than twenty years since Mr. Ingleby observed that 'in advanced pregnancy the uterus, when moderately grasped and rubbed, slightly hardens and almost instantly regains its yielding condition.' Dr. Oldham has since pointed out that this power of contraction possessed by the uterus may be taken as a trustworthy characteristic of pregnancy; for he states that the large gravid uterus alters in a marked manner, under the influence of pressure, from a state of flaccidity to one of tension. Thus, if we expose a pregnant woman, the outline of the tumour is seen to be less defined before manual examination than it becomes afterwards; for on applying the hand, the tumour which at first is felt soft and ill-circumscribed, rapidly assumes a tense rounded form, becoming firm and resisting. According to Dr. Oldham no other tumour but the pregnant uterus possesses the power of altering its form when irritated by palpation; but I must here beg to differ in opinion from this gentleman. Only a short time since I was examining the abdomen of a poor woman suffer-

ing from an attack of flooding, caused by the presence of a very large polypus in the uterus. The loss of blood had been very great, so that all the tissues were relaxed and flabby; and on placing my hands—which were very cold—over the tumour, I distinctly felt an increased rigidity of the walls of the uterus. The truth, indeed, appears to me to be this—that the uterus, in common with other hollow viscera, has, when enlarged through the presence of any substance in its cavity, a regular peristaltic movement consisting in slight contractions and dilatations. Under the influence of the former the outline of the organ can be easily appreciated, other conditions being favorable, and these contractions are undoubtedly the more evident the greater the size of the womb, and the more it is irritated by external manipulation. But as it seems that the peristaltic motions occur whenever the uterine cavity becomes enlarged from any cause, it necessarily appears objectionable to instance such movements as a trustworthy sign of pregnancy."

To these remarks of Dr. Tanner's I may add a remark of Dr. Montgomery's in his work 'On the Signs of Pregnancy,' p. 100. He says:—"The uterus within the first four months has a feel of a soft, though pretty firm, fleshy tumour, not sensitive when pressed, of a uniform smooth surface, and of such a size as would be without difficulty grasped in the hollow of the hand. After this period, that is, from the fifth month, it loses somewhat of its firmness and distinct feel, owing to the greater expansion and consequent lengthening out of its fibres, which continuing to increase as pregnancy advances towards its termination, the circumscribed organ becomes less and less distinguishable; though generally to be detected by making pressure with one hand while we examine with the other, in doing which we also ascertain some degree of obscure fluctuation, but in the same proportion as the parietes of the organ become indistinct, its solid contents are more easily felt, and even separate limbs may be recognised and traced; the firmness of the tumour as well as the degree of fluctuation which it affords will very much depend on the size it has acquired or the natural firmness or supple-

ness of its structure, and on the quantity of liquor amnii. Owing to the variation in these causes a corresponding degree of difference will be recognised in its consistence in different instances, so that, while in some persons it is so soft and yielding as hardly to be felt, in others it presents a degree of solidity amounting to absolute hardness, though still healthy, and retaining its round or oval form and its uniform smooth surface."

Dr. Priestley* remarks only thus far, p. 83 :—"There can be no doubt, I believe, that it possesses contractile properties (before impregnation), as it expels blood-clots, dysmenorrhœal membranes, and intra-uterine polypi. During the extrusion of these we may sometimes distinctly recognise the alternate hardening and relaxation of the organ by placing the hand over the hypogastric region. Its muscularity at the full term of pregnancy scarcely admits of room for controversy." He then instances the pressure felt on your hand during a pain, &c. He thus passes over the contractility during pregnancy.

It is evident that Dr. Montgomery did not recognise intermittent contractile power in the uterus, but thought the difference he had noticed was owing to an inherent difference in the tonicity of the tissues in different persons. It does not appear how far Dr. Tanner's opinion as to the peristaltic movements was based on facts observed by himself in the different stages of pregnancy, because he gives no further information on this point, or whether his opinion was formed by a consideration of the analogy which the uterus distended bears to other hollow contractile organs.

Dr. Tyler Smith is much more clear regarding the contractions of the uterus, and foreshadowed in a measure the substance of this paper; but the contractions he instances are those which are caused by excitation, as the context shows. In discussing the position of the fœtus in utero he considers that the peristaltic action of the uterus has as much influence as the movements of the fœtus itself on its position. These movements he attributes to reflex irritation, derived from various causes of excitation. He believes very strongly in

* 'Lectures on the Development of Gravid Uterus,' 1860.

these movements as being of even greater frequency than the movements of the fœtus within it. Thus: "I have no doubt of the frequent movements of the fœtus in utero, but wish to insist upon the equal or even still greater frequency of the movements of the uterus itself."

Again: "With this change of shape the uterus acquires more power of muscular contraction, and becomes the subject of reflex and peristaltic movements."*

These passages from Dr. Tyler Smith's thoughtful work on 'Midwifery' show that he had a very clear perception of the movements of the uterus, but I gather from them that he looked upon them as being excited by various accidental causes of a reflex kind, which he enumerates at p. 197. It may be that the frequent and almost regular movements I shall describe are really due to reflex action, but they are best observed in complete passiveness of the woman. It may be that the semi-stagnant state of the blood in the uterine sinuses, &c., may provoke contraction, but certainly there is some other excitor than either the fœtal movements or the irritation of the various nerves in sympathetic communication with the uterus. These remarks of Dr. Tyler Smith were made two years before the appearance of Dr. Tanner's, but probably they had not arrested his attention. In any case subsequent authors are silent on the subject so far as I can find, both at home and abroad.

It was a source of difficulty to the older obstetricians to explain how that, at a certain time, namely, at the full period of pregnancy, the uterus, passive up till then, began all at once to acquire a new power, that of contracting; forgetful that, long before the full period had arrived, the uterus has the power to expel the fœtus, and under mental excitement or local stimulation, attempted to do so frequently.

But after many years' constant observation, I have ascertained it to be a fact that the uterus possesses the power and habit of spontaneously contracting and relaxing from a very early period of pregnancy, as early, indeed, as it is possible

* 'Manual of Midwifery,' p. 217, 1858.

to recognise the difference of consistence—that is, from about the third month.

When the uterus is normally placed it is, of course, difficult to make it out till a little after that time, but in the case of retroversion accompanying pregnancy, then the fundus being readily felt per vaginam, the contractions can without any difficulty be perceived.

Up to the end of the second month the walls are still dense, but after this time the fundus, as can be noticed if the uterus be retroverted, will begin to be elastic, and variation in its consistence is recognisable as the end of the third month is approached.

If, then, the uterus be examined without friction or any pressure beyond that necessary for full contact of the hand continuously over a period of from five to twenty minutes, it will be noticed to become firm if relaxed at first, and more or less flaccid if it be firm at first. It is seldom that so long an interval occurs as that of twenty minutes; most frequently it occurs every five or ten minutes, sometimes even twice in five minutes. However, in some cases I have found only one contraction in thirty minutes. The duration of each contraction is generally not long, ordinarily it lasts from two to five minutes. When the uterus is irritable or has been irritated it lasts longer than this; under particular circumstances, to be alluded to again, it may assume an almost continuous action analogous to that which is noticed after long obstructed labour.

Supposing, then, we commence our examination when the uterus is contracted, we find the organ firm and solid, somewhat like the uterus affected by a fibrous tumour. Gradually this state alters, the walls becoming softer and ultimately so flaccid that their outline can be hardly made out, unless the other hand be placed on the os uteri per vaginam, and even then sometimes with difficulty. So also, if we commence our examination when the uterus is in its flaccid state, it will at first be very ill-defined, so that, if we are careless or too rapid, we might readily say that there was no pregnancy; but shortly the shape of the organ gradually becomes more and more distinct, till we have

no doubt but that we have an enlargement of the uterus to deal with; after a time the firmness abates, and gradually the original condition of relaxation is complete.

If we more carefully investigate the uterus after the fourth month of pregnancy we shall further notice the phenomenon, which has been well described by authors, that during the period of relaxation the fœtus (if one be there) is generally to be detected by external palpation or by external ballotment. By internal ballotment also, in consequence of the increased impressibility of the uterine wall, we can make out the fœtal presence, its contour, often its movements, and its capability of being moved. But it is interesting also to notice, during the gradual increase of solidity, how the presence of the fœtus, quite distinct before, slowly becomes more indistinct, whilst the outline of the uterus becomes more clearly marked, till instead of the fœtus we find a hard globular swelling, which we could at the time we recognised the fœtus, scarcely, if at all, feel. That this phenomenon extends from the early period I have already mentioned, to the time of labour, is a fact to which I have never seen but one exception during a course of observations extending over about eight years; and this apparent single exception might have been none at all had a more prolonged examination been carried out at a time. It occurred in a case of paraplegia. Although she was under my care some time, and was subjected to frequent examination, yet the uterus was never found to contract. She went out of the hospital before labour arrived, but the labour was natural.

The constancy with which these contractions of the uterus have always occurred to me leaves no doubt on my mind but that it is a natural condition of pregnancy irrespective of external irritation.

In a general way the pregnant woman is not conscious of these contractions of the uterus, but sometimes she will remark that she has a tumour in her lower abdomen, thinking it a constant thing; but another will observe that she has a swelling sometimes, but which vanishes at other times. But occasionally it happens that the uterus is more than usually

sensitive, and that the contractions are accompanied by pain; and then on examination it is found that each pain she complains of is coincident with a contraction.

Again, when the uterus has been excited by any cause, and these contractions are more than usually powerful, the woman is conscious of their presence, and by watching these we shall convince ourselves that the contractions, which were before unnoticed by her, are really the same as the so-called "pains" of premature expulsion of the fœtus and also of true labour.

Sometimes I have found the contractions last a considerable time, longer often than the intervals; and this is more frequently the case if the uterus contain a diseased ovum, and particularly a solid or carneous mole; but in general the contraction from its commencement to final recession lasts about five minutes. The duration both of contraction and interval varies very considerably.

But it is not only in healthy pregnancy that this phenomenon exists; it is well marked, as just mentioned, where the fœtus is dead; it is also to be found where the fœtus is absent, as in the case of hydatiniform degeneration of the chorion (vesicular mole).

How far this action is the same as the peristaltic or vermicular movement observed in the lower animals one can hardly say, but one can hardly doubt a close analogy to it if not identity with it. But when excited into a more vigorous state there can be no doubt but they are of the same character and identical with "labour pains." And this serves to explain how it is that at a short notice we can bring on labour, and how it is that the uterus shall respond in a few hours (I have seen labour artificially induced accomplished without any traction in two hours) so as to expel the fœtus at the sixth month as well as it does at the ninth month.

By our manipulation we simply exaggerate the action already going on to such an extent that the natural process exhibited by the uterus at labour at full term continues till the fœtus is expelled. In other words, we supply that stimulus which nature herself supplies at the beginning of

labour at full term. The rest of the process is precisely similar. We need not, with the cognizance of this intermittent action, any longer wonder how it is that suddenly a new function is given to the uterus at the end of the ninth month; it is already in active exercise, not perceptible to the pregnant woman, though it is to the examining hand. We also find in this frequent contraction an explanation of the change of note in the uterine souffle. Every one conversant with the sounds of pregnancy has noticed how that while listening to the sounds formerly called *placental*, but now acknowledged to be uterine, the loud sonorous sound has become gradually higher till it is almost a shrill piping musical one. It has puzzled many authors to explain this, but one sees no difficulty in it; the diameters of the uterine sinuses are slowly reduced by the contraction of the walls, the rapidity of the rush of the blood increased, and the pitch of the sound consequently heightened. It also explains the phenomenon of "after pains," in which we see a continuation of the same intermittent movements after the removal of the exciting cause. It is probable that the enlarged state of the cavity after labour allows the exhibition of the action, and the uterus being more sensitive than before labour sets in, the contractions are more productive of pain than during pregnancy. As the cavity becomes smaller, and the walls relatively thicker, and as the uterus resumes its natural state of insensitiveness, the contractions are not any longer recognised unless exaggerated during suckling.

It is not impossible that a something akin to this is going on in the unimpregnated uterus; at least, we find not unfrequently that mental emotions and other exciting causes do bring on a forcing sensation in the empty womb.

In the case mentioned by Dr. Tanner already described, and in cases where I have removed intra-uterine polypi, there is clear evidence of the contractility of the uterus in the intermittent manner, but these cases occurred upon handling and irritating the organ. That of pregnancy is spontaneous.

The only other conditions at all resembling pregnancy are those which occur from retention of the menses in utero,

collections of pus, or of serum. I am sorry I have not been able to observe whether in these states the uterus spontaneously or upon irritation has the power of contracting. It would be highly desirable to obtain information upon this point. To these we shall again allude.

Let me next consider the effects or uses of these contractions. It is possible that there are others, but two appear to be tolerably clear.

In the *first* place, *it will provide for the frequent movement of the blood in the uterine sinus and decidual processes*, for as the sinuses of the uterus are so much larger than the supplying arteries, the current is more slow in them than in the ordinary systemic veins. The contraction of the walls through which the sinuses meander tends to send the current onward, and to act somewhat as a supplementary heart.

Besides this, *it facilitates the movement of the fluid in the intervillal space* of the placenta, or in that which is called the placental sinuses. Whatever view we may hold of the structure of the placenta, whether, on the one hand, there be blood amongst the villi in maternal sinuses, or, on the other, merely a serous fluid, in any case it is through one or the other medium the villi absorb the material for the aëration, &c., of the fœtal blood; and there can be no doubt that from its position it must be more or less in a stagnant state, for even if it be blood, this entering in by small openings into a much larger area, and making its exit also by small openings, must necessarily proceed at a very much slower rate, as has been pointed out by Dr. A. Farc, article Uterus, 'Cyclopædia of Anatomy and Physiology.' It is not difficult, therefore, to recognise the effect which the change in the solidity and shape must produce on the fluids in the placenta as well as on that of the uterine walls; in other words, the contractions act as a kind of supplementary heart to the fluids in the uterine walls and the placenta.

In the *second* place, the uterine action *adapts the position of the fœtus to the form of the uterus.* There has been, as is well known, much dispute as to the cause of the head presenting so frequently in labour as it does. There can

be little doubt but the more recent opinion is the correct one, namely, that the motions of the fœtus combined with the preparatory pains of labour to secure the head to present. For it has been also well shown that the head of the fœtus when folded up in utero is not really the larger end, but that the body with the limbs forms the greater portion; and as the uterus is larger at its fundal end than below, the fœtus folded up corresponds to the shape of the uterus only when the head presents at the os.

But this explanation has been weak in one point, namely, that the head presents in all the later months of pregnancy (although not quite so regularly) long before the pains of labour have set in.

The feebleness of the explanation seems to be corrected in part, if not altogether, by the recognition of these contractions to which I am endeavouring to draw attention. During the whole of pregnancy this silent power is being exerted, so that, be there little or much liquor amnii, in other words, be the child freely floating or closely pressed by the uterus on the approach of full term labour, yet there is a time, even so early as the fifth or sixth month, when the uterine contractions must act on the fœtus in a manner similar to that in which it is supposed to act on it during the last stage of pregnancy. The remarks and quotation above given show how clearly Dr. Tyler Smith had pointed out this effect of the uterine contractions.

Let us now discuss of what value in the diagnosis of pregnancy is the intermittent action of the uterus.

In the before quoted passage Dr. Tanner says, "But it seems that as the peristaltic motions occur whenever the uterine cavity becomes enlarged from any cause, it necessarily appears objectionable to instance such movements as a trustworthy sign of pregnancy."

To these remarks I would make this rejoinder. For the last six years and upwards I have made use of the intermittent action of the uterus as the principal symptom upon which I have depended in the diagnosis of pregnancy. I

am not aware that I have been less successful than others in determining the existence of pregnancy; on the contrary, I have felt myself at an advantage in the possession of an additional sign to make up the deficiency or temporary inapplicability of the others; as, for instance, when external noise prevents the heart sounds from being heard.

But leaving egotistical expressions, let us consider what are the other causes of enlargement of the uterine cavity, in order that we may see how far they are practically liable to impede our diagnosis.

They are five in number: 1, retained menses; 2, hydrometra; 3, collections of pus; 4, polypus; 5, large fibroids, nearly polypoid.

We will dispose of these *seriatim*, and first, *retained menses*.

In the first place it would be very rare to find a case of retained menses, without severe periodical monthly pains. If such a case presents itself we always examine per vaginam, and then the obstruction is detected. But it is possible that a case may present itself to us—indeed, I have met with one such—where an obstruction exists in the vagina almost insuperable to the escape of the menses from the very small opening, and yet a pregnancy ensues. Now, in this case, of course much obstacle to diagnosis must arise, because of the difficulty of exploring the lower portion of the uterus. In such an event we should, independently of the stethoscope, be enabled in almost every case to make out the presence of the fœtus within the tumour, which we should recognise as being the uterus by its power of contractility. The fœtal presence, detected by the hand and stethoscope, would point out the true state of the case. But also in almost every case of occlusion occurring in those who have already borne children, there is a history of severe labour, or some sign which would lead us at once to institute a vaginal exploration.

But supposing that a girl fell pregnant before the appearance of menstruation, of which I have known one case, then

under these circumstances we should, of course, always institute an internal examination, because in any case it is necessary to make out the actual condition.

Almost always retention of menses in early life results from *vaginal* obstruction, and the majority of those after also; in these cases the uterus itself does not become distended by the secretion till the vagina above the obstruction is dilated to the utmost, and then gradually the uterus enlarges. But this distension is not gradual as in pregnancy, but at each monthly "period" it becomes rapidly larger, subsiding to a certain degree after the "period" has subsided. The decrease in all cases is very well marked. Thus we can feel through the parietes two swellings, the upper one the smaller; and as this is so unlike the pregnant uterus, we can scarcely, with any ordinary amount of attention, mistake one for the other; even supposing, which has not yet been proved, that the uterus distended by menses contracts intermittently, as does the pregnant uterus.

2nd, *hydrometra*, and 3rd, *retention of pus* in the uterus.—Both of these conditions are very rare; both require an occlusion of the os or cervix uteri. The causes of this occlusion would be sufficiently well marked to place the probability of pregnancy aside; but if any doubt existed, vaginal examination would show occlusion, or the state of a developed uterus as in pregnancy. And supposing that vaginal examination were unattainable, then the absence of any solid within (assuming that the uterus in these diseases presented the same phenomena as in pregnancy, which, as I said before, is still unproved), would be sufficient to distinguish these conditions. When hydrometra attains a great size, it possibly might be confused with hydrops amnii; but collections of pus in the cavity of the uterus, seldom, if ever, become larger than the uterus in the fourth month of pregnancy.

Practically their infrequency during the menstrual epoch might permit us to ignore them as a source of difficulty in the diagnosis of pregnancy.

The *fourth* cause of uterine distension is polypus. In the first place, it is very rare to find a polypus in utero so large as to be confounded with pregnancy, without metrorrhagia. This latter was a very prominent symptom in Dr. Tanner's case above quoted. It would not interfere therefore with the diagnosis of normal, but of abnormal pregnancy; and principally with that form where carneous mole was present,

For if there were a pregnancy coupled for some time with hæmorrhages, if the ovum were not converted into a solid form, the fœtus would be felt during the interval of relaxation; and it is in these cases where very frequently, the fœtus being already dead, we are deprived of the employment of the stethoscope, that the advantage of the alternate relaxation and contraction in diagnosis is well shown. Because not only does it show that the tumour is wholly uterine, but by the flaccidity we can tell that the contents are not of a solid nature, for although when the organ is fully contracted over an ordinary ovum the density is as great as if there were a fibroid or polypus within it, yet when it relaxes it is seldom that the laxity is not sufficiently complete but that we can at once satisfy ourselves that a solid of the size of the uterus is not contained within.

Again, it would be a very rare case of polypus where the uterus had by its distension grown as rapidly as it would have done in pregnancy; certainly a polypus so large as to be like a seven months' pregnancy must have taken a long time to grow, and it would be very rare that it should have been unnoticed till within that period.

In the case of a carneous mole, however, there may be some difficulty in distinguishing it from a polypus, especially in a patient seen only lately; because by physical signs they are scarcely distinguishable. By the history, however, we may generally glean information that the menses had absented themselves for a greater or less time. However, the difficulty always has been great, but it is not increased by the knowledge of the intermittent contractility of the uterus.

Taking, however, only the tactile symptom in distinguishing

polypus from pregnancy, we may say that the uterus in pregnancy, when relaxed, becomes quite flaccid, and that a moveable solid is felt floating readily about in it, whereas with polypus, although possibly we may feel the difference between the contracted and relaxed conditions, yet it is so very slight that there is no likelihood of their being confused.

But of course we do not always tie ourselves to only one symptom; and the other symptoms of pregnancy, amenorrhœa, the size of uterus compared with the date of the absence of menses, the state of os uteri, &c., will assist us in our diagnosis, even if the auscultatory signs be absent.

The above remarks apply to the *fifth* cause of distension of the uterine cavity, namely, to fibroid tumours of the uterus, when these project polypus-like into the cavity, except that it is highly improbable that we should find any sensible amount of contraction. In any way it would only be in the case of carneous mole that any difficulty could possibly arise; from this the long standing hæmorrhages, frequently the want of symmetry and persistent solidity, with absence of changes about the os uteri, would enable us to distinguish the fibroid tumour.

Thus it appears to me that the difficulties which would seem at first sight to be caused by the assumption that the uterus distended by diseases contracts intermittently as when distended by pregnancy, readily vanish on closer acquaintance, so far as is required in practice. The knowledge of the fact does not add to our difficulty, whilst it gives us another sign which adds materially to our ease in the diagnosis of pregnancy.

But not only are we assisted in our diagnosis of pregnancy from other uterine tumours, but still further are we helped to distinguish uterine from non-uterine enlargements.

Because if we find a tumour varying in consistence at

intervals, it is quite clear that it must be the uterus, as far as our present information guides us.

There is only one doubt on my mind, derived from the absence of information as to whether the bladder in retention of urine possesses a perceptible intermittent action. That it contracts periodically under accumulation of urine there can be no doubt, but how far this is palpable remains yet open to observation. Of course there is no difficulty in clearing up the question between bladder and uterus, either by vaginal examination or passing the catheter; still, the absence of any solid within will clearly distinguish the vesical from the uterine tumour.

There is one form of abnormal pregnancy which, possessing a consistence between carneous mole and ordinary pregnancy, and being without the presence of the fœtus, may be liable to give rise to difficulty—I mean the vesicular mole or hydatiniform degeneration of the chorion. In this form I have distinctly found the intermittent contractions of the uterus, yet in the state of relaxation no fœtus can be found. Of course, if we examine per vaginam we shall find a more or less patulous os uteri, history of rapid growth, with, most probably, some short suspension of the menses, succeeded by sero-sanguineous discharges. The absence of all fœtal signs, the want of complete fluidity, coupled with the intermittent contraction, will point out that a pregnancy without a fœtus exists, and will, sufficiently with the other signs, show the absence of other diseases distending the uterus.

There is also great advantage to be found in the facility with which in many cases we can obtain an approximative diagnosis. Whilst engaging the patient in conversation the abdominal examination can be carried on without arresting attention such as auscultation would do. If we found a swelling which relaxed at one time and became firm at another, this would be quite sufficient to guide us as to the advisability of insisting on a more complete examination. And then, supposing also there was amenorrhœa, the patient having been "regular" before, the general health being at the same time good, with or without sickness, we may be quite assured that

we may extend the examination to a more complete degree without committing ourselves unnecessarily.

In conclusion I may add that, whilst endeavouring to point out the proper position, as a diagnostic sign, of this intermittent action of the uterus, I do not wish to underrate the value of the auscultatory signs of the fœtal presence, but rather when these, from circumstances, are unattainable or impeded, then this sign proves itself of much more value than authors have, as yet, attributed to it.

I have not added any cases to illustrate the above remarks, because, as the phenomenon is so constant and so easily recognised, and its applicability to diagnosis self-apparent, it would be unnecessarily occupying the attention of the Society to relate instances.

Dr. BARNES called attention to the work of Dr. Tyler Smith, in which the peristaltic movements of the pregnant uterus were well described, not only as forming the basis of the expelling force during labour, but also as characteristic of pregnancy.

The PRESIDENT, in answer to Dr. Barnes, replied that the extract he quoted from Dr. Tyler Smith had escaped his notice. He should be pleased to add it to his paper.* But Dr. Tyler Smith had referred to the peristaltic movements, the result of external excitation, while that which had been just described occurred spontaneously. It was not necessary to use cold hand or friction, and it could be obtained before the uterus could be recognised through the abdominal parietes. Both the text-books and other works at home and abroad were silent on the subject of the paper except so far as the quotations showed.

* N.B.—This has consequently been done in the body of the paper.—ED.

CASES IN PRACTICE.

By Edward Copeman, M.D., F.R.C.P.,
SENIOR PHYSICIAN TO THE NORFOLK AND NORWICH HOSPITAL.

The following cases which have lately occurred in my practice appear to me of sufficient practical value to deserve a brief recital.

The first was the case of Mrs. W—, an active middle aged woman with several children, and whose life was of great value to her family; when I saw her she had attained the eighth month of pregnancy, and about six weeks before had had an attack of jaundice followed by severe and almost constant vomiting, which had reduced her almost to the last stage of emaciation and exhaustion, so as to place her life in considerable peril. She had been treated by mercury, prussic acid and effervescents, anodynes, chloral, champagne, &c., but, although the jaundice left her, the vomiting persistently continued. I was consulted as to the propriety of inducing premature delivery, but finding that neither oxalate of cerium, nor lime water with milk, had been given, we agreed to try both these in their turn, and then, in case of failure, to bring on premature labour. She had taken and kept down about a pint and a half of milk since the night before, with a little brandy in it, and I advised a continuance of this so long as it seemed to answer. The child was active, but the abdomen not very tense or large. The sickness, however, returned very soon after I left; the proposed remedies were tried and failed, and as she continued to get worse her surgeon produced labour according to a plan I recommended to him. He informed me she was delivered about forty-eight hours after the operation, of a living boy, small, weakly, and jaundiced. The mother progressed favourably, but had some slight delusions for about a week; with that exception she was as well as could be wished, and on the 16th of June, since which time I have not heard of the case, the child was

alive and growing fast. The day I was summoned to the consultation was the 12th of April, 1870.

I think it may be useful here to repeat what I published some time ago, as to a mode of producing premature labour, which I believe I was the first to suggest and the first to practise. The particular mode I adopted was to pass an œsophagus bougie or tube a distance into the uterus between its inner wall and the membranes, in two or three different directions, without rupturing them. It is an operation which gives no pain, and labour will, in all probability, come on in two or three days, or probably sooner; and the fact of the membranes being entire during the first stage materially facilitates the progress of delivery, and contributes in no slight degree to the safety and preservation of the child.

The second case was one of fibrous polypus of the uterus occurring in a patient more than 50 years of age, who had been known to have suffered for a year or two with some kind of uterine tumour. I was called to her in consultation with two medical friends on the 1st of June, 1870, and found a very large tumour projecting from the vagina and lying between the thighs, almost as large as a full-grown fœtus, and so like one in appearance that one of the gentlemen present exclaimed at once, "Why, it is a child!" For some time the tumour had been partially presenting and producing inconvenience, and her regular medical attendant had several times returned it into the vagina, but it had suddenly protruded in the way I found it a few hours before my visit. On carefully examining it I found parts of it darkened by partial decomposition, giving an appearance something like dark hair upon a child's head; it was attached to the fundus uteri by a neck an inch and a half or more in diameter, and the uterus was very nearly completely inverted, the os being felt encircling the tumour very near its attachment. I advised removal by ligature as we had no écraseur at hand; a strong thread was first passed round it near its base, and another through the pedicle and tied on both sides; after which the tumour was cut off on the distal side of the ligature and no hæmorrhage followed. The next thing was to restore the

inverted uterus to its proper position, and this was done with great ease by pressing the fundus upwards with the fingers. No unfavorable symptom followed, and the patient made a very good recovery.

The third case was that of a maiden lady above middle age, who had been suffering for some time with a tumour in the vagina, which for some weeks past had projected from the orifice and caused her great discomfort. About six weeks before I saw her she consulted her usual medical attendant, whose first impression after examination was that the tumour was the uterus, but afterwards he thought it was either a fibrous polypus or an inverted uterus. The case was one of great obscurity, for the tumour seemed much larger than a *virgin* uterus could be, and there was no apparent cause for, or, perhaps, possibility of, inversion occurring under the circumstances. The idea of polypus was the most reasonable, and the question of operation was delayed until after a consultation with me. She came to me on the 21st of June, 1870, and on examination I found a long conical tumour projecting several inches from the os externum vaginæ, and not less than two inches in diameter; it felt very much like a fibrous polypus, but on examining carefully I could find no os uteri encircling it, but felt the cul-de-sac of the vagina round the whole upper circumference of the tumour. About the middle of the tumour I felt something hard and globular about the size of a large walnut, but could not determine what it was. I then made an inspection of the projecting portion of the tumour, and at its very extremity discovered a small opening, so small as not to be perceptible to the touch, but which, coupled with the fact of not being able to find any circle of os uteri above, led me to the conclusion that the lower part of the tumour at least must be the uterus itself, the small opening being the os. I then carefully examined the hard portion above referred to, and, whilst manipulating, caused it to escape from my grasp and pass upwards out of reach. I then tried to push the whole tumour upwards, and it readily ascended under the pressure and the uterus was restored to its natural position. I did not know what the hard substance

was; it might have been a hardened ovary or a solid lump of fæcal matter which had gradually forced the uterus downwards. Had the tumour been mistaken for a fibrous tumour, and any operation been resorted to for its removal, the result would have been fatal; but the simple measure I adopted for its reduction was perfectly successful, and her surgeon informed me that up to the first week in July she had had no return of the projection nor any inconvenience whatever.

Dr. Barnes said, in reference to the mode of inducing labour by the introduction of a bougie or catheter into the uterus, that he believed the method was much older than Dr. Copeman thought. He himself thought it the best mode of *provoking* labour, but like all simply provocative means it could not be depended upon to complete labour. The immature uterus frequently required further aid; that is, accelerative means were also necessary. The best of these was rupture of the membranes, dilatation of the cervix by the caoutchouc water-bags, turning, and the forceps. By the judicious use of these means we could always complete labour, and thus conduce to the safety of mother and child, within twenty-four hours. Thus, a Swedish physician lately called upon him, asking to see the action of his cervical dilators; happening to have a labour in progress, in which he had the previous evening inserted the bougie, he took this gentleman with him to the appointment made at 6 p.m. to finish the labour, engaging his friend to dine with him at 7·30 p.m. He went, according to arrangement; a living child was delivered by forceps. Dr. Barnes strongly deprecated the injection of fluid into the uterus to induce labour; several fatal accidents being known to have resulted from this practice. With reference to M. Tarnier's apparatus, he observed that it resembled one he himself had originally devised when engaged in perfecting his cervical dilators, and discarded on account of its inefficiency; it would not dilate the cervix, and he had been informed that even in M. Tarnier's hands it had been necessary to wait one, two, three or more days for labour to follow its use, so uncertain was it.

Dr. Protheroe Smith, in confirmation of Dr. Barnes' remarks on the use of the gum-elastic catheter to induce premature labour, said that it was employed by Sir James Simpson, as by himself, for many years previous to the period alluded to. Though it was undoubtedly proved to be a very efficient means generally for bringing on labour before the full term of utero-gestation, yet, having been in Paris last year, Dr. Tarnier of the Maternité had

brought under his notice an ingenious instrument which he had found to be more efficacious in some instances. It consisted of a metal grooved director, about eight inches long, carrying a tube of india-rubber, thin at its distal extremity; this is introduced in utero towards the fundus, separating the membranes, where it is distended with water so as to form a bulb-shaped bladder, when the metal director is withdrawn. The fundal portion of the uterus being thus stimulated, uterine action is usually set up in a few hours, and in the four instances in which he had employed it it had answered the purpose very well. At another meeting he should be happy to exhibit the instrument to the Society.

Dr. PLAYFAIR said that while he fully agreed with Dr. Barnes that introducing a catheter eight or ten inches between the membranes and the uterine wall was the best method as yet at our disposal for inducing labour, he could not quite endorse his opinion as to the certainty with which this result followed. On more than one occasion he had found it fail, even when left for more than twenty-four hours in utero. There could be no doubt that occasionally the uterus was roused into activity with great difficulty, and this probably depended on some peculiarity in his individual case. He did not make these remarks by way of disparaging this method of operating, which he himself used in preference to any other, but because he thought that Dr. Barnes was somewhat mistaken in his estimate of the certainty with which labour could be induced within a given time.

Dr. BRUNTON said that he had used Prof. Lazarewitch's plan in nine or ten cases with complete success; that the labour came on soon, and was terminated successfully. But he had reason to change his opinion of the operation, both on account of the danger said to accompany the injection of warm water into the uterus, and because in one case it proved a total failure. He had induced premature labour in the cases of two ladies, sisters. In one, the injection of warm water brought on labour in half an hour; but, in the other sister, he injected on three separate occasions in a week without success, and then having recourse to the old method of passing a gum-elastic bougie a successful result followed, and that in a few hours. On being called upon to induce labour for the second time in the case of the one who had been so easily influenced by Lazarewitch's plan, he used the bougie, but sixty hours elapsed before pains set in; however, it was also successful. Since that time he had used the bougie only in four cases, and with perfect success. The bougie he used was a gum-elastic catheter (No. 12), in which no eye had been cut, as he thought that if the membranes were thin the eye, during the passage of the instrument, might catch and tear them—an event to be deprecated. Seven and a half months was his usual term for operation.

Dr. Murray referred to his observations in the ninth volume of the Society's 'Transactions,' on Professor Lazarewitch's "Method for Induction of Premature Labour," and repeated his belief in the value of the plan recommended by the professor. Dr. Murray had nothing to say against the use of the catheter, but it was not infallible, and in his hands it had also completely failed to bring on labour.

The President remarked that he thought the use of the introduction of the catheter between ovum and uterus had been in use before Dr. Copeman's employment of it. The plan he employed was either the catheter or the plan of Dr. L. Earle. If the uterus did not respond he then employed the dilating bags, rupturing the membranes just before introducing the last bag, so as to retain some of the liquor amnii. He considered the safety of the child depended on two conditions—one, the rapidity with which the uterus came into action, the other the freedom with which it passed through the os. The processes which accomplished these desiderata best were those to be employed, and the dilatation of the os certainly answered the latter requirements excellently.

Dr. Wiltshire suggested the desirability of inducing premature labour at a period in pregnancy which, in respect of time, would correspond to a menstrual epoch.

Dr. Rogers said he had little to add to what had been already told the Society by preceding speakers, some of whom had had greater experience than himself in bringing on premature labour. He had in his early career punctured the membranes high up so as to save some of the liquor amnii, first dilating the cervix with sponge tents; of late years he had used a long elastic catheter with an opening at its rounded extremity, which had proved successful, except in two cases in which he was obliged to inject some water through it; pains soon followed, and he found Dr. Barnes' dilating bags of great service in quickly terminating the labour.

NOVEMBER 1st, 1871.

Dr. Braxton Hicks, M.D., F.R.S., President, in the Chair.

Present—45 Fellows, and 11 visitors.

The following gentlemen were elected Fellows of the Society:—Eugene Goddard, M.R.C.S.; Charles James Harris, M.R.C.S.; John Faure Miller, Paris; Francis F. Taylor, M.B., and William Bezley Thorne, M.R.C.S.

Dr. Snow Beck showed the uterus and appendages of a woman, aged 38 years, who died from convulsions during a short illness of typhus fever. All that could be ascertained of her previous history was that she had had several children in quick succession, had been an invalid for several years, and had suffered from what she termed "rheumatics," some finger-joints being enlarged and distorted.

The uterus presented one of those forms of enlargement which are apparently caused by an arrest of those processes which reduce the organ to the unimpregnated condition after impregnation, and restore the inner surface to its original state. The enlargement did not depend so much upon an increase in size of the contractile fibre-cells, as upon an increased amount of round and oval globules with amorphous tissue in the uterine walls, as well as at the inner surface, which form the soft tissue of the uterus, aided by an enlargement of the blood-vessels. The whole of the organ was very much congested, and the vessels formed a continuous system even to the capillaries on the inner surface, from all of which

the blood was readily and completely washed out when placed in a saline solution.

The uterus was large, plump-like, firm, yet somewhat elastic to the feel. It measured $3\frac{1}{2}$ inches in length, $2\frac{1}{4}$ inches across the fundus, the walls $1\frac{3}{8}$ thick, and the uterine cavities full 3 inches long. All the blood-vessels were loaded with deep dark coloured blood, which readily escaped after a longitudinal section through the walls. The divided vessels were large, projected from the cut surface, and at about a quarter of an inch from the inner surface they assumed a straight course, and ended in the capillaries at the inner surface, where the blood was more florid coloured. The loaded state of the blood-vessels was much greater in the body than at the neck of the uterus. How far the attack of typhus fever contributed to this fluid condition of the blood it would be impossible to say. The uterine tissue was of considerably deeper colour than usual, looked coarser, and at each side of the neck the inner part was of a dull white colour.

The cavity of the body was enlarged, and filled with a slightly red, transparent, jelly-like mucus, with considerable capillary injection on the surface, the tissue of which was soft and pulpy, and readily removed by the point of a scalpel. No utricular glands could be detected, though carefully looked for. The cavity of the neck, also considerably enlarged, contained some colourless, rather tenacious, mucus, the lower half of a mottled, bluish-red, and slate colour. The columnæ and arborescent appearance very indistinctly marked. The internal tissue thickened. At the internal orifice six or eight cysts existed, filled with transparent mucus fluid, and varying from the size of a medium pin's head to that of a medium pea (ovules of Naboth). These had the appearance of mucous crypts, in process of reformation, wanting the orifice, and filled with secretion. The external orifice was large, admitted easily the end of the finger, and measured one inch across. The lower part was bounded by a distinct line of demarcation, which marked the line of junction between the tissue at the inner surface of

the uterus, and the mucous membrane of the vagina, along which line some eight or more isolated spots of injection existed, slightly raised above the surrounding surface. None of the usual villi were present, neither on the columnæ of the neck, nor at the outer orifice. The lips were large, of a strong violet-blue colour, they projected half an inch into the vagina, and were divided by a constriction at each side into two projecting halves, rudely resembling a bishop's mitre. The whole of the surface was smooth, and without the slightest abrasion or breach of surface at any part.

Examined with the microscope, the mucus in the uterine cavity contained many red blood-corpuscles, and a great number of columnar epithelium cells, which were modified in various ways. None presented any cilia, the body was granular, some nuclei small, others large. In many the ends were partially removed, and in the others the nucleus alone remained, which formed a granular corpuscle of varying size. Some of the epithelium cells were much enlarged, flat, contained three or four granules in the nucleus, and looked like large flat cells. Some much larger cells existed, with granular contents of three or four nucleoli, and others with several molecules on the outer surface. Several molecules, similar to those of the soft tissue, were present, and the whole in a transparent finely granular stroma. The pulpy tissue on the inner surface contained the usual round or oval corpuscles, with granular contents, and some with two or three molecules in the centre. The corpuscles were very numerous, and enlarged to about double their usual size. The molecules were few in number, and the amorphous tissue deficient in amount. Numerous columnar epithelium cells were modified, but to less extent than those in the mucus; a few contractile fibre-cells were somewhat enlarged, and with small nuclei. The mucus in the cavity of the neck contained large numbers of modified columnar epithelium cells, the ends of which were more or less removed, forming granular corpuscles of different sizes. There were no red blood-corpuscles, nor any of the larger corpuscles.

A portion of tissue from the walls of the uterus, a little

distance from the inner surface, showed bundles of contractile fibre-cells somewhat enlarged, and distorted in various forms by reason of the changes at either end—shortening the end, or allowing it to remain of unusual length—and proceeding from an enlarged nucleus; some of the nuclei being small, others large. Also an equal amount of round and oval corpuscles, little more than half the size of those seen in the tissue at the inner surface, many molecules, and a considerable amount of amorphous tissue; also different capillary vessels enlarged, and with thickened walls. A portion of tissue from the walls of the neck of the uterus showed essentially the same structure, only modified, as is usual in this situation. The corpuscles were smaller and less marked, the molecules in fewer numbers, the contractile fibre-cells shorter and smaller, and the amorphous tissue in greater amount.

The Fallopian tubes were much congested, especially at the fimbriated extremities, of a dark mahogany-red colour, and gradually becoming paler towards their uterine terminations. They contained a thin, dark-yellow, purulent-looking fluid, consisting of truncated epithelium cells, and many globules, the constituents having considerable resemblance to those in the mucus in the uterine cavity.

The ovaries were rather small and considerably disorganised, each containing at the upper part a cyst filled with thin grumous-looking blood.

The portion of vagina presented nothing worthy of note, further than the villi being small, and recognised with difficulty.

From this examination it would seem :—

(*a.*) The essential condition of the organ consisted in the elements of the different tissues retaining a portion of the natural enlargement consequent upon impregnation. But this enlargement was more due to the increased size and amount of the soft tissue present in the walls of the uterus, as well as at the internal surface, than to the increased size of the contractile fibre-cells.

(*b.*) Although the blood-vessels were large, and loaded with fluid blood, yet there was no evidence to show that

any morbid process, similar to inflammation or otherwise, had at any time been present. Indeed, everything indicated an opposite conclusion.

(*c.*) The whole of the blood-vessels to the minute capillary network at the inner surface, formed one continuous system, though the character of the distribution changed towards the inner surface; and considering there is no division in the uterine walls to justify the description of an internal mucous membrane, this distribution appears to offer a strong argument against the idea that the internal surface could be the seat of inflammation independent of the other portion.

(*d.*) The pulpy condition of the tissue at the inner surface, with the loaded state of the blood-vessels throughout, appear to afford a probable explanation of the frequent and severe hæmorrhages which attend similar enlargements.

(*e.*) This uterus, which presented in a marked manner all the characters attributed to the so-called inflammatory ulceration, is one evidence amongst many of the extreme fallacy of such statements. There was no evidence of any inflammatory action ever having existed, nor was there the least abrasion or destruction of surface anywhere. The tissue of the inner surface of the neck looking red and soft, and bounded by a distinct margin at the junction of the mucous membrane of the vagina, is no evidence of the presence of ulceration.

(*f.*) With regard to any treatment for the removal of this condition, it would appear that this should include topical applications applied to the entire uterine cavity. Any application to the lips or lower part of the neck could not be expected to beneficially influence the circulation or the tissues at the body, which were the chief seat of the changed state. Any local abstraction of blood might be attended with severe hæmorrhage, without much probability of permanent benefit.

Dr. F. R. Hogg, R.H.A., exhibited a specimen of deformed fœtus. It was born after a very quick, though painful,

labour, before the midwife's arrival, who cut the short withered funis, and removed from the vagina a small putrid placenta.

There was nothing during the pregnancy which had reference to maternal impressions as a cause, but the mother noticed a difference from her other pregnancies, namely, a great weight rolling about at night, causing abdominal pain. The fœtus was, however, living within seven days of its expulsion. Otherwise her health was good during pregnancy.

There is no history of monstrosities in the family. Her father was phthisical, and the husband had ague just before the commencement of the pregnancy.

The specimen was referred to a Committee.

ABSTRACT OF A MEMOIR ON OSTEOMALACIA, BY DR. GAETANO CASATI, OF MILAN.

By Robert Barnes, M.D.

Being requested by Dr. Gaetano Casati to present to the Society a copy of his 'Memoir on Osteomalacia,' I have thought it might be useful to accompany it by a brief abstract of its contents. Osteomalacia is comparatively rare in this country. It is remarkably frequent in some of the rural districts surrounding Milan. Beyond the value which every work coming from the distinguished author cannot fail to possess, the exceptional abundance of material upon which it is based invests the memoir with peculiar interest.

For eight years Dr. Casati acted as first Assistant to the late Professor Lazzati at the Royal School of Midwifery at Milan. From 1852 to December, 1870, there were admitted 8069 women, of whom 7719 were delivered. These included 62 cases of clearly-marked osteomalacia—that is, 0·80 per cent. of those who were taken in labour.

After some observations on the pathology of the disease, Dr. Casati tabulates the sixty-two cases, showing from what locality they came, the condition of life, the kind of labour, the result to mother and child, and other details. Only one was a primipara, and excepting five all had had three children or more. A much greater number of cases occurred between the ages of thirty and forty than during the preceding decennium.

As to the occupations of the patients, twenty-nine were countrywomen, eighteen weavers, twelve seamstresses. It is, however, remarked that the countrywomen and seamstresses, for the most part, worked at the loom during the winter.

Almost all the women came from that part of the province of Milan known as the Valley of Olona. The same district also supplies the greatest proportion of cases of pellagra and petechial typhus (typhoid) to the Milan hospitals, whereas malaria is not prevalent in it. All the women came from wretched villages where food was scarce, consisting for the most part of maize or rice, often musty; they worked at washing or weaving; were badly lodged, their rooms being ill-ventilated, out of repair, the glass of the windows generally substituted by paper; the houses built upon clay, and damp. Added to these unhappy conditions Casati thinks the character of the water and the vegetables with which the people eke out their scanty diet is largely concerned.

The soil is chiefly clay. Water collects in stagnant pools, and it is from these the people take their water, as the wells are too deep. The water is wanting in saline matter.

The author then describes minutely the osteomalacic pelvis, comparing it with the rhachitic pelvis. Much care is devoted to this subject, and the descriptions may fairly be said to be based upon a larger amount of clinical observations than those of any other author.

As to the mode of delivery.—Fifty-four were delivered at term, 6 in the eighth month; 27 were delivered normally after easy labour; 4 were delivered normally after difficult labour; 31 were delivered artificially—that is, 2 by manual extraction; 10 by turning; 4 by forceps; 1 by the blunt hook;

3 by cephalotripsy; 1 by craniotomy and forceps; 1 by the forceps-saw; 2 by Cæsarian section; 7 by provoked labour. In 51 cases the head presented, in 7 the breech, in 4 the shoulder.

Of the children, 42 survived, 6 died quickly after birth, 14 were dead-born.

Twenty-seven women went through the puerperal state in the regular course, 35 suffered morbid childbed, and of these 13 died.

Pelvic distortions.—Of the 62 women, 41 presented various degrees of pelvic deformity. The author gives precise measurements of the 37 cases which occurred during the eight years of his service.

It will, no doubt, strike most English practitioners with surprise to hear that, out of 62 labours with osteomalacia, only 2 called for the Cæsarian section, and only 5 other cases for embryotomy, whilst 31 were completed spontaneously and 16 by turning or forceps.

Lazzati and Casati both declare that gastro-hysterotomy must always be in these cases an operation of necessity, not of election, because we must, in the first place, be sure that the pelvic bones will not yield. Of course in most of the cases in which labour terminated spontaneously, the disease had not yet induced any great degree of distortion; and in others the compressed pelvis was susceptible of being dilated under eccentric pressure.

Looking at the severe pulmonary distress the author thinks chloroform should be withheld.

The autopsies of 6 cases are minutely described. In 1 there was anæmia of the brain, in 2 serum in the lateral ventricles, in 3 congestion of the cerebral substance, in 4 there were results of pleurisy, in 4 bronchial catarrh, in 1 bronchoectasia, in 4 pulmonary œdema. Indeed, the main results were due to morbid processes of the respiratory apparatus. In no case was laceration of the uterus observed, and only once did post-partum hæmorrhage occur. In one case eclampsia attended labour.

As to the medical treatment, Casati says that osteoma-

lacia is frequently suspended when pregnancy or suckling is brought to an end. Whilst endeavouring to alter the hygienic conditions under which the disease arose, he lays some stress upon the use of biphosphate of lime or of the powder of Professor Polli, which consists of hypophosphite of lime, carbonate of lime, phosphate of lime and soda, hyposulphite of magnesia, chloride of sodium, bicarbonate of potash, ferric oxide, manganic oxide, and potassic silicate. He also recommends cod-liver oil. Of the value of this agent I can speak highly from personal observation. In the 'Medico-Chirurgical Transactions' I have published a case which I believe was cured by it. Casati lastly advises the abandonment of bread made of maize and rice, and recommends instead the bread known as Liebig's bread, which is rich in salts and phosphates, or Professor Horsford's modification of Liebig's bread.

Mr. SQUIRE said the pulmonary and bronchial congestions described as frequently found post-mortem, must be looked upon as owing rather to the way in which death had terminated these fatal cases, than to the conditions of labour at their commencement, so that they afforded no argument against chloroform, the use of which in severe labours tends to diminish the stress upon both respiration and circulation.

ON A NOVEL WAY OF USING THE UTERINE SOUND IN FLEXIONS OF THE UTERUS.

By ADOLPH RASCH, M.D.

PHYSICIAN FOR DISEASES OF WOMEN TO THE GERMAN HOSPITAL, AND PHYSICIAN TO THE TOTTENHAM TRAINING HOSPITAL.

THE object of this short paper is not to enter into the therapeutics of uterine flexions, but merely to suggest a new method of using the uterine sound for confirming the diagnosis and redressing the flexed organ. In replacing the flexed womb with the uterine sound, as usually done, the interior

walls of the uterus are much irritated by the scraping of the instrument, and the whole organ is twisted about. For the point of the instrument has to perform a semicircle of about two inches diameter in the uterine cavity. Pain, loss of blood, and inflammatory symptoms are therefore consequences only too well known to all of us.

To do away with this serious drawback in the application of an otherwise valuable instrument, Dr. Marion Sims, with his usual fertility of inventive power, contrived an instrument, which he calls elevator, the principle of action of which is "that of elevating the fundus in a straight line instead of a circle, and supporting the weight of the organ on a disk at the os tincæ instead of the distal end of the instrument at the fundus. A joint or hinge in the sound two inches from its uterine extremity, and a disk there as a point of support, are all that is required."—('Uterine Surg.,' page 264.)

The elevator most efficiently does away with the objectionable semicircular movement of the point of the sound within the uterus. But *one* objection remains to it—its very existence as an unnecessary addition to our rapidly growing instrumentarium. To come forward as a negative inventor, diminishing the number of instruments while adding to our professional skill seems, therefore, to deserve some little encouragement from the learned members of this Society.

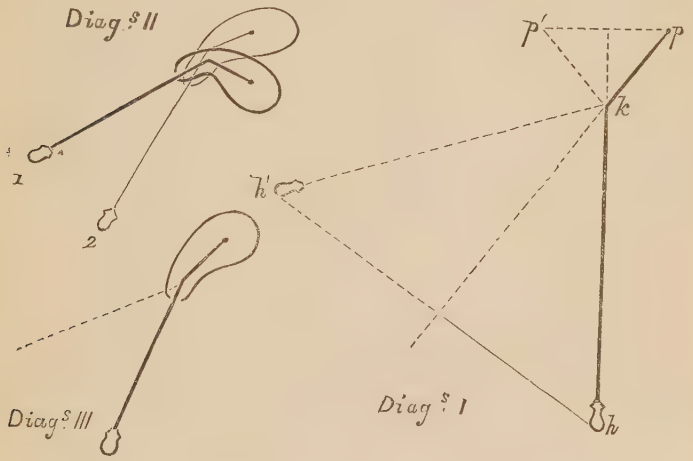
To reverse the sound in the uterine cavity the *handle is* generally *turned*, making the whole instrument—except the uterine extremity—rotate round its longitudinal axis without changing its place. The upper two inches, on the contrary, make that objectionable, large conical movement inside the uterus. The axis of that conus is the prolongation of the long straight part of the sound. Diag. I, *p k p'*.

My method is this—*simply reverse these two movements* and you have all you want. Let us make the *uterine* part of the sound *revolve round its axis without changing its place*, and cause the straight part of the instrument to swing round the prolongation of this axis in a large semiconus in the vagina and before it. Diag. I, *k h h'*.

This is an extremely easy movement, and gives no pain

whatever to the patient. Holding the upper two inches of the instrument tightly in your closed hand or in a firmly shut book, and swinging the handle round with one finger, will illustrate this simple manipulation and teach the hand how to apply it.

As retroflexion is the more serious of the flexions, and the one in which my method is most valuable, I shall shortly describe the application of the sound in those cases. By simply reversing the manœuvre in anteflexion, when necessary, we should gain the same results.



To *redress a retro-flexed* uterus, the patient on her back: 1, the sound is introduced in the usual way with the point backwards and downwards, handle in front.

2. Press the handle gently downwards and backwards *without turning* it in the least, while the finger (better two fingers where practicable) in the vagina pushes up the fundus. The uterine end acts as a lever on the entire length of the anterior wall of the uterus, raising the organ out of the hollow of the sacrum. Diag. II.

3. The fingers in the vagina are placed on the cervix to keep it steady, with the sound in it, while two fingers of the

other hand, loosely holding the handle, make it swing round in a large semicircle. When this half circle is accomplished you find the handle has turned its upper side down, thus indicating that the intra-uterine part has revolved. *Vide* Diagram III. The handle is now again much more towards the front than in the second stage.

4. By simply depressing the handle the uterus is lifted into its normal position. The hand outside is a sensitive judge of any resistance by adhesions, &c.; much more reliable than the dead spring or screw of the elevator. The finger in the vagina acts as the hypomochlion of the lever.

This little operation, the description of which occupied so much time of the Society in reading, will after a little exercise occupy only a few seconds in its application, and, I feel confident, will be in future practised by all who will take the trouble to try it. Its great superiority to the old method seems to me evident, and was readily admitted by the professional friends to whom I had occasion to show it. I much regret that it is not possible, for obvious reasons, to show its application in patients before the Society.

Dr. Phillips fully appreciated the value of the method described by Dr. Rasch. He would, however, be glad to know the comparative frequency with which Dr. Rasch found it necessary to use the sound for redressing a flexed uterus. Doubtless it could not be dispensed with in some cases, but he always attempted to restore the retroflected uterus without the introduction of any instrument, and he believed that in a large proportion of cases this could be effected.

Dr. Murray could hardly admit that the method of using the uterine sound in the way now described by Dr. Rasch was new in principle. He himself had so employed it for some years, and doubtless many others had done the same. Dr. Murray added that in severe cases of *flexion* he introduces the sound in an easy manner by passing it first in the opposite direction to the displacement, until it reaches the inflexed point, and then secondly by turning the curve of the instrument in the course the fallen body of the uterus has taken.

Dr. Edis thought it very well to bring the subject under the notice of beginners; he himself had adopted the method for years past. Dr. Spiegelberg, in a recent number of the 'Archiv

für Gynækol.,' had called special attention to the danger resulting from injudicious use of the uterine sound; any method that lessened the risk was, therefore, worth consideration. It could hardly be described as new.

Dr. Rasch, in reply, explained that the large movement of the instrument was outside the vagina, the circle of motion increasing with the distance from the os, which, moreover, in many cases of retroflexion was low down in front. The vagina freely admitted of the movement in all cases. Dr. Rasch was justified in calling this method novel, as he had searched the literature in vain for a description, or even the slightest notice of it. That so able a physician as Sims invented an instrument to secure the advantages of the author's method seems an additional justification for the author. He was glad that the only objection to his paper was that its object was not novel, and recommended it strongly to all that have not practised this method.

PROLAPSUS OF THE FEMALE GENITAL ORGANS.

By Mark Konrâd, M.D., of Pesth and Vienna.

late assistant-physician to the allgemeines krankenhaus, vienna.

(Communicated and translated by Dr. Grigg.)

The views on prolapsus which I have the honour of placing before you this evening, are based not only on my own experience, but also on the teaching of my excellent master—Professor Spiegelberg.

In every disease, if we wish to interfere beneficially, it is absolutely necessary that we should have a clear perception of its nature, but in this particular complaint there exists the greatest confusion. Every prolapsus of the female genitals in which the uterus participates, is mischievously and wrongly called "a falling down of the womb." It is more in accordance with its nature to call it prolapsus of

the female genitals. Prolapsus uteri is for the most part a secondary affection, a primary prolapsus is very rare. The former generally arises from the vaginal walls prolapsing, and pulling down in their turn the uterus. The uterus consequently descends lower into the pelvis, and according to the degree, it is divided into complete and incomplete prolapsus uteri.

By a falling (descensus) of the womb is meant a condition in which the uterus as a whole takes a lower position. Incomplete prolapsus of the uterus is that altered position in which the vaginal portion, or a part of the lower segment of the uterus, lies on the vulva; complete prolapsus is its entire extrusion beyond the vulva.

These distinctions are immaterial in a clinical point of view. Prolapsus of the vagina is always the most important feature in any prolapsus of the female genitals. Those authors who wish to make a distinction between vaginal and uterine prolapsus, forget the usual collective character of the tumour (viz. vagina and uterus), and that the one is but a sequence of the other.

Of the different forms of vaginal prolapse, that of the anterior wall is the most common, which is, however, not unfrequently accompanied by a descent of the posterior wall—prolapsus of the posterior wall by itself is rare. Should the posterior wall not have taken part in the anterior prolapsus, still, it will have descended a little. In cases where the uterus appears at the vulva with the vaginal walls equally low, one might at first sight be inclined to consider prolapsus of the uterus the primary cause, and that of the vagina a sequel only, yet even in these cases we have a safe criterion for making a correct differential diagnosis, viz., the state of the cervix uteri. Should there be a considerable elongation of the cervix, we may conclude that the vaginal prolapsus was primary; should, however, the elongation be inconsiderable, that of the uterus will have been the primary event. Enlargement of the vaginal portion of the uterus (circular hypertrophy of Spiegelberg) is of no diagnostic value, and is only a sequence of the mechanical irritation. The diagnostic importance of elongation and

hypertrophy of the uterus is variously estimated by different authors; and is considered to be the primary cause by Hugier, Braun, Hewiss, Martin, and others. Some, however, view it as a peculiar form of prolapsus. In deciding this question, it is above all things important to understand aright the hitherto overlooked difference between elongation of the supra- and infra-vaginal portions of the neck. The anatomical relations of the vaginal attachments to both these parts permits, as a rule, directly of a correct decision. It can only be an elongation of the supra-vaginal portion, through growth downwards, that can draw with it the vaginal attachments, and produce a protrusion and prolapsus of the vagina, and conversely, the vagina, through traction on its attachments to the lower border of the supra-vaginal portion, either pulls the whole uterus with it, or when the uterine ligaments are too unyielding produces an elongation of the supra-vaginal cervix. Ovarian and fibroid tumours act similarly, causing occasionally an elongation from twelve to fifteen inches.

Neither can any prolapsus of the vagina cause a lengthening of the infra-vaginal cervix, nor can any outgrowth of that portion of the cervix occasion a prolapsus of the vagina, or at the utmost only a slight descent. The uterus also is unaffected by elongation of the infra-vaginal portion, or if affected it is so but slightly, and that only through lengthening of the supra-vaginal portion. This veritable elongation of the infra-vaginal portion was first described by Virchow, who called it a prolapsus of the uterus without descent of its supports. The elongation of the vaginal portion as a rule has no effect whatever in causing prolapsus; this, however, might pass for an hypertrophy of the vaginal portion on account of the very essential alteration in the vagina through prolapsus. Only lately Martin has maintained that hypertrophy of the circumference *en masse* produces prolapsus through its weight, &c., and he considers this an affection *sui generis*, causing an eversion of the os uteri. However, against Martin's theory it must be allowed that this eversion only exists when the uterus is exposed to the air, and is due to irritation of the urine,

clothes, air, &c., as after replacement it speedily disappears. Were the hypertrophy the primary cause, it could not be considered as an effect of the weight of the cervix, as large polypi of the vaginal portion produce no evident prolapsus of the uterus. The theory that prolapsus of the vagina is the primary cause of prolapsus of the uterus, easily explains the eversion of the os uteri by its pulling apart the lips of the os tincæ. The hypertrophy of the vaginal portion often seems greater than it actually is, from its occasionally forming a hernial sac with the rectum, bladder, and the fold of Douglas. I think, therefore, it may be justly maintained that the elongation of the supra-vaginal portion, as also the hypertrophy of the infra-vaginal portion are but secondary affections.

Besides cases in which prolapsus of the vagina is complicated with prolapsus of the uterus, there are cases in which the vagina alone is prolapsed. It is generally the anterior wall, but occasionally the posterior, and the latter accident Professor Spiegelberg has seen occur in persons who have not borne children.

The chief predisposing causes of prolapsus of the female genitals are gestation, parturition, and childbed. In the puerperal state the uterine ligaments are relaxed and swollen, and the vaginal walls flabby and hypertrophied. It is not uncommon to find the anterior wall of the vagina in the last months of gestation swollen and already forming a kind of prolapsus: at parturition the advancing part of the child (generally the head) pushes this before it, and, from its attachments to the bladder, the latter also. The conduct of women during the period of involution, through neglect of the proper management of the bladder and bowels, and getting up too soon, tends much to its production. From distension of the bladder the anterior wall of the vagina is bulged in, forming a pouch of the bladder, from which the urine can be expelled with difficulty, and straining necessarily but intensifies the evil, at last a vaginal cystocele is formed, and the uterus, on account of its attachment to the bladder, is dragged down with it: the same thing happens if the rectum is per-

mitted to become overloaded, then a rectocele is formed. "Getting-up" too early whilst the vagina is still swollen and relaxed may produce it, and also in cases of prolonged labour, in which its muscular coats through over-distension have lost their tone, the vaginal walls prolapse, and the uterus, from the flaccid condition of its ligaments, readily yields to the traction, and prolapses also.

Should the perineum have been torn, the anterior wall of the vagina loses its natural support, and the tendency to prolapsus is much aggravated. Still the perineal rent is not the cause, but the whole act of parturition; and the fact that a plastic operation on the perineum does not always cure the prolapsus proves that it has but a secondary place in its causation. Prolapsus of the posterior wall of the vagina rarely produces prolapsus of the uterus. The incidents of childbed particularly favour prolapsus of the uterus, and are in most cases the only causes. Under such conditions it is not surprising that but little induces it—a powerful contraction of the abdominal walls, as in coughing and straining at stool, is sufficient.

Amongst the predisposing causes senile atrophy must be considered as one. In old age not only do the uterine ligaments become flaccid, but also the structures forming the perineal space. The uterus and vagina shrink; the vagina also loses its fatty pads of support and falls down, dragging with it the uterus. Rapid emaciation in fat persons from severe illness favours it. The continuous pressure of the pelvic organs against the perineum through tight lacing or tumours is very hurtful. Cases that occur in young girls arise, as a rule, from masturbation, which produces an hypertrophy of the vaginal mucous membrane and its rugæ. On account of its anatomical relations prolapsus of the posterior vaginal wall is rare. In young girls not addicted to this vice it occurs suddenly from a sudden shock through *contre-coup*.

As a rule, every prolapsus has at first but a trifling effect; but soon the neighbouring organs sympathise, according to the part of the vaginal wall that is prolapsed. In bad cases those hernial sacs are formed which add so materially to the patient's sufferings and misery. The uterus becomes hyper-

trophied by degrees, but especially the cervix and vaginal walls, through the irritation of clothes, air, urine, &c. Abrasions and ulcers are formed, having a purulent and offensive secretion, tending, finally, in some cases, to a fatal termination through the absorption of septic matter.

I will now shortly review the means adopted for its cure.

As prolapsus of the female genitals is chiefly an accident of child-bed, particular care must be taken during that period to guard against all exciting causes, loaded bowels and bladder, &c., more especially after difficult and prolonged labours.

Should a prolapsus have occurred during or after delivery, it must be returned at once and the patient carefully kept in the horizontal position, keeping the bowels open by salines, and avoiding the use of clysters, which are so liable to produce tenesmus. Should these means not suffice a pad of cotton wool, kept in position by a perineal bandage, will be found of great help in retaining the anterior vaginal wall in position. Should replacement of the uterus be attended with much pain or hæmorrhage, it will be necessary to combat the congestion with leeches, lotions, cauterisation, &c., and then replace the organ.

In the treatment of complete prolapsus of long standing there are two points especially to be attended to—1, replacement; 2, retention.

1. For the first (viz. replacement) care should be taken always to empty the bladder and rectum before attempting to return the prolapsus.

2. As regards retention, we have the *palliative* and the *radical* cure. The former is best effected by means of pessaries, of which the best is Meyer's ring, or Hodge's modification of it.

For the radical cure many methods have been proposed, which it will be needless to describe at length; I shall confine myself to that plan of operation which Professor Spiegelberg advocates, and which, in his practice, I have seen attended with the best results. It consists of a combination of Hugier's and Dieffenbach's operations, with an addition of his own after Simon's colpokleisis. In cases where

the vaginal portion of the cervix has become greatly hypertrophied, in order to hasten the cure, he removes it by means of the galvanic wire, heating it to white heat at the commencement so as to cut through the mucous membrane rapidly and cause its contraction, then slowly cutting through the cervix. He allows the parts to heal by granulation, as this mode of healing induces absorption of the hypertrophied uterus; he studiously avoids Sim's plan.

If the posterior wall has prolapsed with the uterus he performs Dieffenbach's operation by removing a triangular piece of its mucous membrane having its apex to the os, its base being made from the pared surfaces of the rent perineum (when that is the case), so as to form a new perineum, or where that has not happened, from the labia minora, so as to contract the orifice of the vagina and aid in supporting the anterior vaginal wall. Professor Spiegelberg then proceeds to unite the upper portion of the posterior vaginal wall with the inferior anterior vaginal wall after Simon's operation of colpokleisis. In prolapsus of the anterior wall this has been attended with the happiest results, but the contraction of the perineum, as performed by Dieffenbach, is essential to its success. I must now conclude this very hasty review of prolapsus.

Dr. Edis considered the paper a most interesting and important one; because the affection was so common it was too little studied; he had witnessed several instances where a Hodge had been inserted with the intention of keeping up an elongated cervix.

Dr. Phillips thought the Society was indebted to Dr. Konrád for supplying so interesting a paper for discussion during his stay in London. There were several points upon which he hoped to hear the experience of the Society. If he understood Dr. Konrád's paper aright he should be disposed to express an opinion just the reverse of the author's. While fully admitting that certain cases of prolapsus uteri were secondary to vaginal prolapse, cases in which the uterus was small, and which had been called instances of *passive* prolapse, he believed that this class was a much smaller one than that which included those cases where an increased weight of the uterus itself was the primary

cause of its descent. This was associated with a relaxation of the surrounding areolar tissue, and the heavy uterus was then sufficient to overcome the support which the vagina in the healthy state gave it, by means of the stray filaments of so-called areolar tissue inserted into the vaginal walls. Dr. Phillips could not agree with Dr. Konrád that elongation of the supra-vaginal portion of the cervix uteri was always a secondary affection dependent on the traction made by the prolapsed vaginal walls. The arguments brought forward by M. Hugier in his elaborate memoir on the subject seemed to him conclusive against this view. He further doubted whether any shock would produce a displacement of the uterus in young women, if the organ was not increased in weight, and there existed no impairment of the surrounding structures.

Dr. Heywood Smith said that he agreed with what had been said with regard to the chief cause of prolapsus uteri, viz. that it was due mainly to increased weight of that organ producing relaxation of its supports; but he wished also to mention a cause which was not generally recognised, and that was that, as age advanced, the lumbo-sacral curve becoming more or less obliterated, and the plane of the pelvis thereby becoming more horizontal, the natural support that the normal position of the pelvis, together with the abdominal walls, gave to the pelvic viscera was removed, and they tended to prolapse from gravitation. He wished also to refer to Dr. Konrád's description of the different degrees of prolapsus. He had described them as complete and incomplete prolapsus, whereas in England we were accustomed to use the word "prolapsus" and "procidentia," the former signifying the incomplete falling of the womb, and the latter the complete extrusion of the organ. Now he begged to say that he thought these terms were employed wrongly, and he regretted to find that the error had crept in to the nomenclature of disease; and though it was always difficult to introduce a new word into a language, and more so to change, even should it rectify the meaning of an old word, yet he suggested that the word "procidentia," being an active sort of word, should be held to signify the "falling," or tendency to fall, of the womb, and be limited to the description of incomplete prolapsus, and that the word "prolapsus uteri," being the past participle, and signifying the complete act, should be used only to indicate cases where the uterus was extruded from the vulva.

Dr. Routh, after eulogising Dr. Konrád's paper, stated that he was strangely enough brought, by his own experience, to the same conclusions as the author. Without wishing in any way to find fault with Dr. Heywood Smith's etymological learning from Oxford, he believed that the majority of practitioners looked upon the two words, "procidentia" and "prolapsus" uteri, as synonymous. The distinction should be between "prolapsus"

without, and "prolapsus" *with* "allongement," or elongation of the uterus. He, Dr. Routh, had previously confounded these two affections, but after perusing M. Hugier's paper on 'Allongement,' he could not but agree with him that prolapsus uteri, "pure and simple," *without elongation* of the cervix, was very rare. He had met four cases; whereas allongement cases with prolapsus were very common. In the former the uterus, if a little heavier, was of normal length; in the latter, it extended to four or six inches. The diagnosis was at once determined by the sound. Looking back to the history of this disease as he had himself treated it, and seen it treated by others, there were three ways in which it had been combated; 1st, all these cases were treated by Dieffenbach's operation, or rather, by the modification known and practised in this country, viz. the *perineal operation*. Some of these cases were thus indirectly cured; in others, after a few months' comfort, the affection recurred, the uterus again dilating the external straitened opening, and making its appearance external to the vulva. And these results followed in operations made by the best operators in London. 2nd, these cases were then treated by Emmett's operation, *i. e.* two strips of mucous membrane were removed, one on each side. These were afterwards brought together and stitched, thus contracting the vagina. A modification of this plan, first practised by Dr. Rogers and therefore called *Dr. Rogers' operation*, was subsequently tried. This consisted in removing a very large triangular piece of mucous membrane, the apex being towards the cervix, from the outer wall, sometimes also from the posterior wall of the vagina, and bringing the edges together by sutures. This plan succeeded exceedingly well in *some* cases, but failed in *others* also, after a few weeks' or months' comparative comfort. 3. A third plan was therefore adopted, and that was to remove by the écraseur, or actual cautery, a piece of the cervix—as much as could be removed without wounding the bladder—or posterior pouch of the peritoneum. This was found to set up an absorptive action on the uterus, and the elongation in many cases gradually, but *entirely* disappeared. This was undoubtedly the most successful of the three modes of operating, but even here occasional failures followed. He, therefore, Dr. Routh, had concluded that a cure to be certain and radical should comprise the three operations conjointly, or, at any rate, the last and one of the other two which, he believed, was also Dr. Kourád's conclusion. In regard to the *etiology* of this complaint, he, Dr. Routh, had long thought that any cause which could be said to produce a rubbing or *friction of the vagina on the cervix*, whether supra- or infra-vaginal, but especially the *supra-vaginal* portion, would produce an *allongement*. He had but lately seen a remarkable case proving this, where Dr. Rogers' operation had been performed, and a tight

vagina made to keep the uterus *in situ* above it. The uterus was at the time about four inches long. At first the patient was thought cured, but latterly he had again seen her. The uterus had forced its way down, surrounded by the tight vagina, and had lengthened to six inches. He could understand how external friction would cause hypertrophy of the cervix and os tincæ, as stated by Dr. Konrád, and also that masturbation, by causing congestion and hypertrophy of the vaginal walls, would produce the disease. He hoped in these remarks he would not be misunderstood as blaming other operators, or putting one hospital above another, but simply as stating the result of his observations. Then, the fact that the best operators in London had failed by the single operation showed the need of a different method, and this was a combination of the operations.

Dr. Heywood Smith rose to ask Dr. Routh if he had known any case in which, after amputation of the cervix uteri for elongation, it had ever grown again.

Dr. Barnes observed that no one was in a position to throw discredit on others for failing to cure cases of prolapsus and hypertrophy. For some years we had all been pursuing a tentative course to find out the best mode of treating these affections. As to the mode of production of hypertrophy, he was scarcely prepared to agree with Spiegelberg and Dr. Konrád. Traction of the vagina might come in as a factor in the course of the disease, but the initiatory stage was, he believed, congestion and increased weight of the uterus. These cases were rare in women who had never borne children; they almost all began after childbearing. The history was as follows:—The passage of the child through the cervix was a violent process; the cervix was forcibly stretched open; the mucous membrane was carried down before the head, and the tissues of the cervix were bruised; small vessels were torn, giving rise to ecchymosis and effusion of serum. Then, from getting about too soon, and other causes, imperfect involution resulted: the lower part of the uterus especially was increased in weight and bulk, whilst the surrounding cellular tissue, being greatly stretched and weakened, was less able to support the uterus. Hence continued congestion and perverted nutrition of the cervix, which, growing from within outwards, caused some eversion of the os. He had lately drawn attention to an illustration of this process. Small polypi on the edge of the os frequently complicated hypertrophy. Their structure was identical with that of the cervix, from which they sprung. They were, in fact, simply outgrowths, the result of the hypertrophic action. During labour the os was fissured, lobulated; one lobe would grow faster than the rest of the cervix, and, soon projecting beyond the level, would become polypoid. At a later period the friction of the

vagina and other causes would aggravate and accelerate the process. Senile atrophy of the uterus and surrounding tissues he had described in terms almost identical with those used by Dr. Konrád. When this occurred, simple prolapsus followed, and he could not help thinking that it was far more frequent than Dr. Routh's observations would indicate. In these cases the whole uterus, surrounded by the vagina, was prolapsed outside the vulva, where it could be completely grasped and surrounded by the fingers, thus distinguishing it from hypertrophic elongation in which the cervix could be traced up by the fingers and sound into the pelvis. He should, in conclusion, like to know how far the experience of others agreed with his own as to the usual extent of elongation being exactly five inches. He had found the cases in which this length was exceeded very rare. He drew attention to a drawing of a remarkably interesting specimen, in St. Thomas's Hospital, of hypertrophic elongation of the cervix uteri, in which all the normal relations were preserved. It showed, amongst other points, how the peritoneum descended outside the vulva, and proved the danger of amputating the cervix.

Mr. Spencer Wells differed from Dr. Barnes in the opinion that restoration of the perineum was "beginning at the wrong end" in the treatment of prolapsus of uterus and vagina. It is quite true that prolapse of the anterior wall of the vagina is the first step in the progress downwards. But a sound perineum is the chief opponent to this prolapse. When the perineum is torn, the anterior vaginal wall loses its support, falls down, and draws the uterus after it. Restore the perineum, and the prolapsus is cured, provided there be no hypertrophy of the uterus, or elongation of the cervix. It would be absurd to expect the perineal operation to cure an elongated cervix; but in cases of ordinary prolapse, he (Mr. Wells) could say that the perineal operation often effected a permanent cure. More than twelve years ago he had removed an elongated cervix by the écraseur. The structure was well shown, in a drawing published in the 'Pathological Transactions' in 1858, to be simple hypertrophy, and there had been no regrowth. Nor had he (Mr. Wells) ever seen an elongated cervix grow again after the vaginal portion had been removed, either by the écraseur, by cautery, or by cutting.

The President said that amongst the various causes which led to prolapsus uteri, we must not overlook this, that when the uterus, from whatever cause it descended, by its pressure on the vagina acted like a foreign body, it set up reflex irritation and tenesmus, which, acting constantly, coupled with defæcation and the pressure of the bladder, would tend to extrude and elongate the cervix. This, he thought, had an important bearing on practice, because it would clearly be better, before trying plastic

operations, to endeavour to gain shortening of its supports, either by pessaries or recumbency, before the operation, rather than proceeding at once to this, and hastily putting the patient on her feet afterwards, to allow the uterus again to cause forcing down as before.

DECEMBER 6th, 1871.

J. Braxton Hicks, M.D., F.R.S., President, in the Chair.

Present—49 Fellows and 9 visitors.

Books were presented by Dr. John M. Butler, Mr. E. Cutter, Dr. J. Hall Davis, Dr. R. Doherty, M. Gustave Chantreuil, Dr. Joulin, Dr. L. W. Sedgwick, and Mr. Spencer Wells.

The following gentlemen were elected Fellows:—Robert Bell, M.D., Edward Foster Brockman, M.R.C.S., Thomas Walter Evans, M.R.C.S., Thomas Clarkson McConkey, M.D., John R. Morrison, L.R.C.P. Edin., Frederick Martin Rickard, M.R.C.S., and Montague J. Sturges, M.D.

The following report on a malformed fœtus exhibitedby Dr. F. R. Hogg, R.H.A., was then read :—

The fœtus was well formed and weighed about seven pounds, it was perfect in every part, the only abnormality being the presence of a sac communicating with and protruding from the abdomen, as large as the fœtal head, measuring 15 inches in circumference, the opening at the base, through which the viscera protruded, measuring 6 inches in circumference. The sac was formed chiefly by an expansion of the sheath of the umbilical cord, but partly also by the abdominal parietes which were continued up, as it were, round the base to a distance of about one inch.

The aperture communicating with the abdomen extended from the ensiform cartilage to within one inch and a half of the pubes. On opening the sac a large quantity of grumous

caseous semisolid matter, suspended in a chocolate-coloured fluid, escaped, which, on examination under the microscope, presented granular matter, disintegrated blood-cells, and other appearances, warranting one in concluding that, in all probability, it was altered blood that had apparently been extravasated for some little time, as distinct fibrinous coagula existed in it.

The organs contained in the sac were the liver, spleen, the greater portion of the small intestines, and a small portion of the sigmoid flexure of the colon distended with meconium.

The liver was of about the normal size (but no trace of a gall-bladder could be detected), its position was abnormal, being turned completely over, as it were, the right lobe being to the left, and the under surface turned uppermost. It was intimately adherent to the sac.

The spleen was found immediately under the liver. There was no other abnormal condition to be noticed.

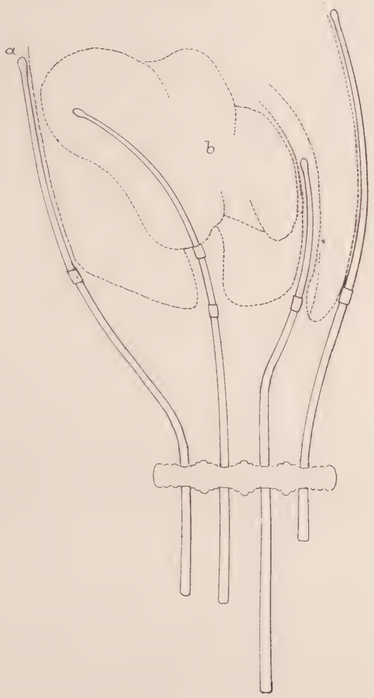
(Signed) J. H. Aveling,
Arthur W. Edis.

The following report on a tumour exhibited by Mr. Scott was read:—

The tumour, which was of a flattened ovoid shape, measured $4\frac{3}{4}$ inches long, $3\frac{1}{2}$ inches broad, and $2\frac{3}{4}$ inches thick; it was invested with a covering of peritoneum, which completely encircled it, except at the point where it had been separated from the attachment which forced the pedicle of the growth. Near this spot there was also found a portion of the Fallopian tube. The tumour itself was composed almost entirely of hard, dense, fibrous tissue, but having in some places a kind of reticulated appearance. Under the microscope it was found to consist of white fibrous tissue, some elongated fibre cells, and a few rounded granular cells and granules. At one end of the tumour, that nearest to the point of attachment, there was found a portion of the ovary, which contained the remains of a ruptured ovisac, half filled with blood clot. There were also other Graafian vesicles in different stages of formation. The ovary itself could not be separated

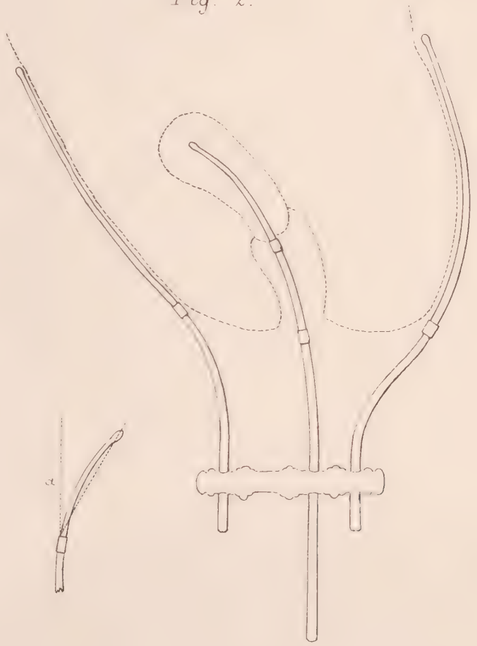
DR AVELING'S GYNÆCOMETER.

Fig. 1



Uterine fibroid.

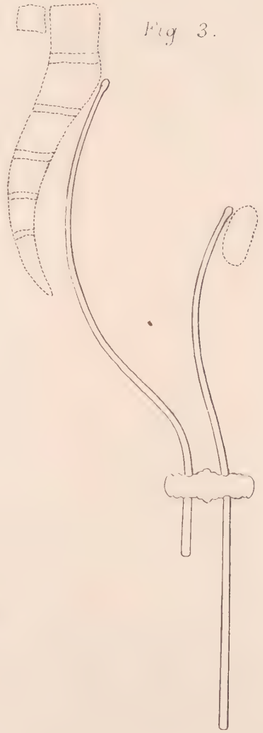
Fig. 2.



Ovarian cyst on the right side.

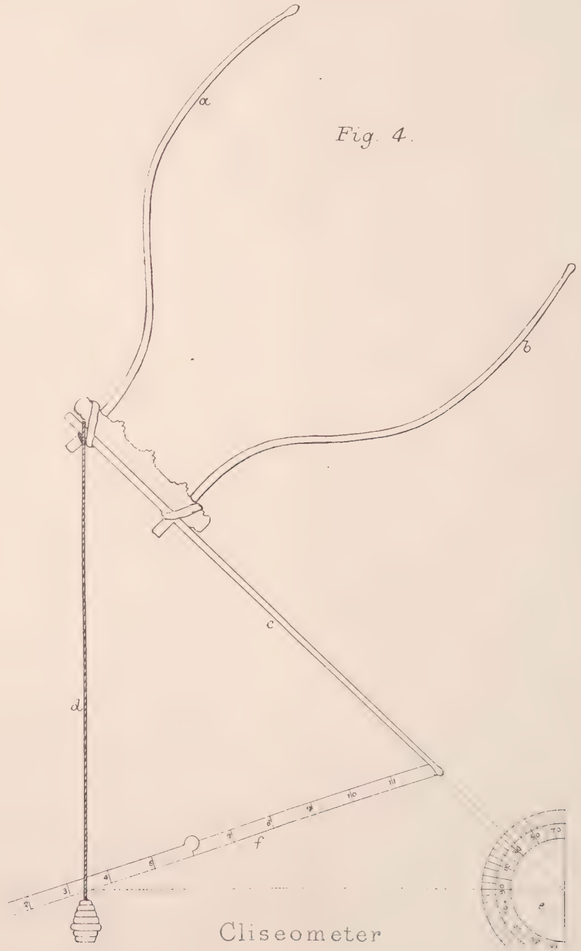
$\frac{1}{3}$ *Size*

Fig 3.



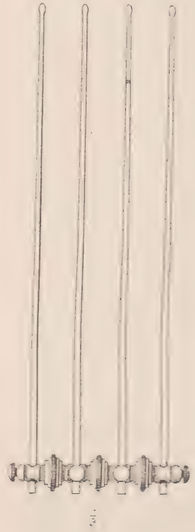
Pelvimeter.

Fig. 4.



Cliseometer

Fig 5.



$\frac{1}{3}$

from the tumour, the two structures being so intimately connected that it was impossible to say where the one ended and the other began. It seems, therefore, possible that the tumour originated in the fibrous stroma of the ovary, and that its growth in one direction did not interfere with that portion of the ovary which still maintained its normal character, and, so far as could be judged, performed its ordinary function.

ALFRED MEADOWS, M.D.
JOHN SCOTT, F.R.C.S.

I wish to add to the report by Dr. Meadows and Mr. Scott that I have obtained from Dr. Wilson Fox the following report upon this tumour:

"It is a loculated fibroid, but in the more central and transparent parts of the loculi there are, I believe, a great number of non-striated muscular fibres. It is very difficult to isolate non-striated muscle after a preparation has been in spirit, but there are a number of broad-banded fibres not affected by acetic acid (as the surrounding bundles of fibrous tissue are) and containing long fusiform nuclei."

The remains of the ovary with the clot appear to me to be separated from the tumour; and while not denying the *possibility* of a tumour largely made up of non-striated muscular fibre originating in the ovary, I think it must be excessively rare, as I have never yet seen any such tumour; whereas such tumours originating from the uterus are among the most common of morbid growths.

J. SPENCER WELLS.

On the report of Mr. Scott's case being read Mr. SPENCER WELLS suggested that as Dr. Meadows and Mr. Scott had arrived at such a very different conclusion from Dr. Wilson Fox and himself the President would perhaps examine the specimen for the satisfaction of the Society.

Dr. AVELING exhibited his gynæcometer, fig. 5. It consists of four uterine sounds which pass through a rod and

are capable of being fixed in it at any length by means of screws. The sounds are made of copper wire silvered, and one or more of them may be used at a time. With this instrument an endless variety of measurements can be made. By combining its pieces in different ways it may be converted into a hysterometer, a vaginometer, a pelvimeter, and a cliseometer. When used as a hysterometer one sound is employed and a portion of the rod, which can, by means of screws, be divided into four pieces, forms a handle. A notch is made in the sound used for this purpose two and a half inches from its end. As a vaginometer and as a pelvimeter, fig. 3, two sounds combined answer the purpose. When employed as a pelvimeter one may be passed into the bladder and the other into the rectum.

In measuring the size of a tumour, *b*, fig. 1, the two outer sounds are placed in the median line upon the sacrum and abdomen, another is passed into the uterus, and a fourth into the rectum. Small pieces of india-rubber tube are slipped up the sounds to mark any point the relative position of which we may wish to know. The sounds having been moulded separately are passed through the rod and the whole instrument is firmly fastened by means of the screws. Being satisfactorily adjusted the parts of the rod are finally disconnected and the sounds withdrawn. As each may be removed separately any curves they may have need not be altered. The parts of the rod should be again combined and the instrument placed flat upon a sheet of paper. By running a pencil round its various portions, we can now obtain an exact diagram of the parts measured; and with the aid of the india-rubber indications and the information which our sight and touch has given us, we are enabled, by the introduction of dotted lines, to still further complete our sketch. In the case represented in fig. 1, the uterine cavity measured four inches and that of the vagina one and a half; the extreme length of the tumour in the direction *a b* was six and a half inches.

Fig. 2 represents the measurements taken in a case of ovarian cyst of the right side. The girth of the patient was

forty-two inches, and the left latero-version of the uterus was 29°. By means of the gynæcometer and a protractor the exact angle of any inclination of the uterus may be demonstrated.

When used as a cliseometer, fig. 4, to find the inclination or obliquity of the pelvis, two of the sounds are used as calipers. The point of *a* is placed upon the apex of the first spinous process of the sacrum, and that of *b* upon the front and upper part of the symphysis pubis. A third sound, *c*, is fastened parallel to the rod by two elastic bands, and a plumb-line, *d*, is suspended from its upper end. The instrument being held in position, the distance between the plummet and the lower end of the sound must be measured with a rule. By placing the instrument upon paper, extending with a pencil the line indicated by the sound and drawing another at right angles to the plumb-line until it besets the former, the angle which the plane of the pelvis forms with the horizon may, with a protractor *e*, be readily discovered. Various authors have fixed their angle at from 35° to 60°. In the patient from which this diagram was taken the angle was 45°.

Dr. Aveling spoke of the necessity of having uterine sounds made flexible, and showed one sold to him as Simpson's, which had broken in attempting to bend it.

CASE OF EXTRA-UTERINE GESTATION, WITH REMARKS ON THE TREATMENT OF THAT CONDITION.

By Alfred Meadows, M.D.,

PHYSICIAN-ACCOUCHEUR TO, AND LECTURER ON MIDWIFERY AT, ST. MARY'S HOSPITAL; PHYSICIAN TO THE HOSPITAL FOR WOMEN.

M. A. F—, æt. 22, unmarried, was admitted under my care into the Hospital for Women, September 26th, 1871, when the following history was obtained:—On the 5th and again on the 9th of April she had sexual intercourse, from which the present pregnancy dates. She is not known to have been pregnant on any previous occasion. On the morning of the 6th of April she first became sick, and this sickness continued more or less constantly for fifteen weeks. Six weeks after the first sexual intercourse she began to experience severe, cramp-like pains in the lower part of the stomach, and fourteen weeks after their first commencement she was thought to be in labour from the regularly intermittent and severe character of the pains.

On the night previous to her admission into the hospital, it being then twenty-four and a half weeks from the date of the first sexual intercourse, she was seized with more severe pain in the abdomen, and a dreadful feeling as if something had been torn away from her on the right side, with severe pain like the cutting of a knife on the left side. On attempting to turn in bed she said she could feel the child roll about different to what it had done before. On examination the abdomen was found to be greatly enlarged, and the extremities of a fœtus could be felt quite plainly, as if immediately under the skin, midway between the umbilicus and the sternum. The movements of the fœtus were at that time very sharp, active, and extremely painful. On the left side, a little above the iliac fossa, a somewhat dense and irregular swelling could be felt; it was not at all tender on pressure, and no portion of the fœtus could be made out in that situation. There was considerable tenderness all over

the abdomen. A vaginal examination showed that the cervix was soft and spongy, and the whole uterus could be felt enlarged, but the uterine sound was not used. On auscultating the abdomen the fœtal heart could be distinctly heard a little to the right of the umbilicus; the entire region occupied by the fœtus was resonant, the only part that was dull being the lower central hypogastric portion.

The patient was kept slightly under the influence of opium, and absolute rest was enjoined.

On the morning of the 4th of October, at about 5.30, the patient, who had slept well during the night, was suddenly seized with faintness, and severe pain in the chest with a sense of suffocation; there was no increased pain in the abdomen; rigors soon followed, with vomiting; the sight became dim, the surface cold and clammy, and the symptoms generally were those of collapse. I saw her at midday, and found her with a cadaveric expression, extremely prostrate, the pulse so quick and feeble as hardly to be counted, the abdomen so tender that no pressure could be borne, breathing extremely difficult, and a dark, prune-juice-coloured kind of fluid issued from the vagina.

Stimulants were given freely, and very minute doses of opium. The pulse varied from 120 to 150, but the temperature only for a short time reached 101°. She continued in a state of extreme prostration all that day and night, but the only complaint made was of distress of breathing. She was very restless, getting little or no sleep that night. The abdomen was very tender, and on careful examination no part of the fœtus could be felt in the epigastric region where it had been before, but it seemed to have moved down to the hypogastric region and the right iliac fossa; no fœtal heart could now be heard anywhere. The condition varied scarcely at all until the evening of the 5th, when the patient sank and died at 8 p.m.

A *post-mortem* examination was made seventeen hours after death, the examination being limited to the abdomen, on opening which a quantity of effused blood was found, filling the pelvic cavity, and extravasated, also, among the

intestines. On the right side of the abdomen lay the fœtus, having its head in the pelvic brim, and the buttocks in the right lumbar region; it was perfectly free in the abdominal cavity, being covered with no investing membrane. On tracing the umbilical cord, which measured about ten or twelve inches, it was found attached at the placental end to a mass which represented the placenta, but which was in reality the enormously hypertrophied, fimbriated extremity of the Fallopian tube, the several fimbriæ forming separate nodular masses, and the whole incorporated in one mass with what stood for placenta. The rest of the tube was not much enlarged comparatively, and the ovary of the same side was in a perfectly healthy and natural condition, as were the ovary and Fallopian tube of the opposite side. The uterus was enlarged, it measured about three and a half inches in length, and contained some bloody mucus.

Remarks.—On looking at this specimen, which is very well represented in the annexed sketch, and considering the history of the case, the question forces itself upon me as to whether I did all that could or ought to have been done to save this poor woman's life; and though I believe that I acted strictly according to obstetric rule as laid down in all works on midwifery, my own among the number, I must confess to a feeling that more daring treatment might have ended differently, and that at least a chance ought to have been given her by the operation of gastrotomy. I am, of course, well aware of the great risk and danger of such a proceeding; but when I consider what enormous advance has been made in the last ten or twenty years in regard to abdominal surgery; when, moreover, I reflect upon the extremely fatal character of this condition, a fatality variously estimated at from 60 to 98½ per cent., the former having reference to the so-called ventral or abdominal pregnancy, the latter to the tubal variety,—I am forced to the conviction that to allow patients so afflicted to die unaided by surgical art, and helped only by the puny, feeble efforts of rest and opium, is a neglect of our duty as obstetricians. I reproach myself now for not having made an attempt to

Dr. Westmacott [illegible] direx.t

W. West & Comp.

rescue this poor woman from the perilous position in which, as it were, by an accident she was placed; and should another similar case come under my care, I shall certainly not hesitate, when once the diagnosis is fairly and accurately established according to the best of one's judgment, to do my best to avert the tremendous danger which always attends upon the almost invariable rupture and consequent hæmorrhage.

The proposal which I venture to make as indicating our duty in the treatment of cases such as this, and in many other cases of tubal gestation, is to open the abdomen and, if possible, remove the fœtus, placenta, and all that belongs to the pregnancy. I think, too, that this operation, to be at all successful, should be performed in anticipation of the almost inevitably fatal rupture. It is useless to wait until rupture has taken place, and when the patient is in a state of collapse; for not only will the operation be then infinitely more difficult by reason of the great hæmorrhage which has taken and is still taking place, and which must seriously interfere with and obscure our proceedings, but the danger to the patient will also be enormously increased. Seeing how fatal a thing rupture of an extra-uterine fœtation is—so fatal, indeed, as to be the rule with but very few exceptions—I think that we can hardly increase its fatality; on the contrary, I believe that if we forestal the rupture in the way I describe, we shall greatly diminish it, and I venture to think, therefore, that the rule should be to regard such a case as we should many other morbid growths of the ovary or Fallopian tube, and effect its removal with as little delay as possible, treating the tube like the pedicle in an ovarian tumour, and after securing it by a ligature, removing the distal portion as we do ovarian growths. Such a proceeding would certainly have been practicable in the case I have brought forward, and I believe with comparatively little difficulty. The result could certainly not have been more disastrous; I think it would have been much less so.

There is one other suggestion which I venture to throw out for consideration in regard to what I may call the management of the placenta in these cases. It has occurred to

me that, inasmuch as the detachment and removal of the placenta is the principal source of danger from hæmorrhage, it would be a very great gain if we could dispense with this part of the operation;—if, in other words, we could leave the placenta *in sitû*. In the case which I have brought forward an examination of the specimen suggests such a possibility to my mind, and, arguing from a physiological stand-point, it seems to me quite possible that after the removal of the fœtus, and with it the physiological necessity, if I may so say, for the placenta, that by merely cutting off this demand the supply would in time also be diminished, and so the placental mass would gradually dwindle and die away, not by any sloughing or decaying process, but merely by a kind of simple atrophy. We might then cut off the cord close to its placental attachment, and leave the rest to the slow but sure process of disintegration and absorption. Of course, to some extent this must be a matter of observation and experiment, but I see nothing unreasonable in the view here propounded theoretically, and I should certainly be disposed to submit it to the test of experiment should another opportunity present itself.

Dr. Protheroe Smith fully admitted the propriety of adopting the operative treatment which Dr. Meadows had advocated. Whilst, therefore, there was no doubt on his mind as to the expediency of employing gastrotomy in such cases, a difficulty suggested itself in the previous diagnosis of extra-uterine pregnancy. The instance now before the Society was seen to be essentially ventral, seeing that the ovary had not in any measure entered into the formation of the cyst walls which had enclosed the fœtus; whereas in the tubo-ovarian variety the ovum included in its envelope both the fimbriated extremity of the Fallopian tube and the ovary itself. Though this form of abnormal gestation might be regarded as affording less danger than when *interstitial*, or when occupying that part of the tube which traverses the uterine walls, or when purely tubular, the most frequent form of this accident, it was almost always, if not invariably, fatal. Still, with such an issue before us, could we but so far improve our diagnosis as to detect tubular pregnancy in its early stage, any operative interference which would afford the

remotest prospect of life to the mother, should not only be considered justifiable, but regarded as a duty.

Dr. Graily Hewitt believed that the operation of opening the abdomen ought to be performed when hæmorrhage from rupture of an extra-uterine pregnancy threatened to be fatal. This had been, he thought, generally conceded when the subject had been discussed at former meetings. But the great difficulty was the diagnosis. It was very rare for the diagnosis to be made during life under such circumstances. With reference to Dr. Meadows' further proposal to treat extra-uterine pregnancy, apart from hæmorrhage, by such an operation, that was another matter, and in considering it it should be borne in mind that a certain proportion of supposed Fallopian pregnancies, as stated by Kussmaul, were really cases of pregnancy in a bicorned uterus, and such cases often did well if left to themselves.

Mr. Spencer Wells said that the propriety of operating when a woman was dying of bleeding into her peritoneal cavity, and of operating when her life was not in immediate danger, although extra-uterine fœtation had been ascertained to exist, were very different questions. In the one case it might be the clear duty of the surgeon to try and save a patient at any risk from inevitable death. In the other case he would give full weight to the consideration that a spontaneous termination of extra-uterine fœtation was not very uncommon. A process of calcification or other change went on, and the fœtus might remain in the body harmless for many years, or pass away through the rectum or vagina, or some part of the abdominal wall.

Dr. Greenhalgh gave brief particulars of seven cases of extra-uterine fœtation—three recoveries, and four deaths. Of the former, in one the fœtal bones of twins at about the seventh month were discharged through an abscess in the left groin after being retained fourteen years; in another, a full-grown fœtus in an advanced stage of decomposition was extracted through an incision in the roof of the vagina, after being in the lower abdomen, and partially in the pelvis, between four and five years; and in a third, the liquor amnii was drawn off by a small trocar and canula between the fourth and fifth month of gestation (reported in the 'Lancet' of March 23rd, 1867). Of the latter, one was a case of intra- and extra-uterine fœtation, progressing simultaneously to the full period, in which the intra-uterine fœtus was delivered by turning (recorded in the 'Obstetrical Transactions,' vol. v, 1864). The second, removal of a living child at the eighth month by gastrotomy; and the remaining two cases conjoined natural discharge, and artificial extraction of fœtal bones and other tissues through the rectum, over many months. Dr. Greenhalgh concluded by observing that, owing to the great fatality of such cases, he was of opinion that gastrotomy, as

recommended by Dr. Meadows, might, in many cases, give the patient a better chance than permitting the development of the fœtus and secundinesto progress, thereby leading to the risk of rupture, and probably fatal internal hæmorrhage, or other grave terminations.

The PRESIDENT thought the first question to be asked was, is extra-uterine fœtation so fatal as the author and others had concluded it was? His own opinion, based on a large number of cases he had seen, was, that a number recovered from severe internal hæmorrhage, while a greater number gave no serious anxiety to patient or the medical attendant. The cases instanced by Bernutz were put forth in consequence of their affording opportunity of a post-mortem examination, and not as instances of death-rate. If these cases were not so fatal, then he should prefer not to interfere till urgent symptoms arose. But generally we either do not see the patient or recognise the condition till serious symptoms arise, and then the patient is in such jeopardy that we feel, as in the case quoted, afraid, lest by so serious an operation we should take away the chance of life which still may be reckoned upon; so that, practically, we should seldom find an opportunity for an operation of the kind suggested. But with regard to the operation itself, the President thought the difficulty arose not so much from the diagnosis, which, although perhaps one of the most difficult of any, might generally with care be arrived at; but it arose rather from the complicated adhesions and uncertain conditions surrounding, in the majority of cases, the mass. If any one would look over the records in the 'Transactions' of the Society, he would see the excessive difficulty which would attend the removal—adhesions in all directions, and enlargement of the vascular system into sinuses; therefore the hæmorrhage resulting from their rupture would be excessively difficult to stop. Then another question arose: can the placenta be allowed to remain, as suggested by Dr. Meadows? This would presuppose that the hæmorrhage had already been arrested.

Dr. PLAYFAIR said that he had suggested the possibility of performing gastrotomy in suitable cases of extra-uterine fœtation in a discussion which would be found recorded in the seventh volume of the 'Transactions.' That it would be perfectly justifiable, provided a correct diagnosis could be made, seemed to him beyond question. But the difficulties of arriving at a diagnosis in an early stage of the affection were almost insuperable, and the existence of extra-uterine pregnancy was rarely suspected until rupture had taken place. If the patient survived the shock, or in advanced cases of extra-uterine fœtation from the first abdominal, it seemed that there was much less chance of gastrotomy being successful. For then, as the President had pointed out, there were generally very extensive adhesions and matting

together of the surrounding parts, and almost invariably the fœtus lay in a sort of adventitious cyst. Although this did not render the success of gastrotomy impossible, it seemed to him to make a resort to this procedure a much more doubtful point of practice than in early cases of Fallopian gestation.

In reply to the various speakers, Dr. Meadows stated that he had been misunderstood in the proposition which he had made. He did *not* propose to perform gastrotomy after the rupture had taken place, and when the patient was in a state of collapse; that he thought would be a most dangerous and futile step, but he recommended resort to gastrotomy as soon as the diagnosis could be clearly established, in order to anticipate and so to avert that danger, believing that of the two gastrotomy was far less dangerous than rupture of an extra-uterine fœtation.

SUCCESSFUL CASE OF OVARIOTOMY DURING PREGNANCY, WITH REMARKS ON THE TREATMENT OF OVARIAN TUMOURS COMPLICATING PREGNANCY.

By Eugene Goddard, L.R.C.P. Lond., &c.

In August, 1869, I attended a lady, 28 years of age, in her fifth confinement. She was married in 1863, and her eldest child was born in the same year. She had one abortion in 1868. After the delivery in 1869 some fulness of the abdomen, not observed after previous confinements, was noticed, and the increase in size went on gradually. Occasional pain in the left groin and hip had been felt for the previous four years. In August, 1870, Mr. Spencer Wells saw her with me, and confirmed my opinion that an ovarian cyst of considerable size was present; but as the general health was good, and there was no very urgent symptom, we agreed to defer any consideration of surgical treatment. On the 17th of October, 1870, a regular catamenial period ceased, and symptoms of pregnancy began within a fortnight—sickness and frequent micturition, as in previous pregnancies. At the next period in November there

were no signs of menstruation, and increase in size continued. On the 12th of December a second period was due and passed over, nausea and discomfort increasing with the increasing size of the abdomen.

Taking all the circumstances of the case into careful consideration with Mr. Spencer Wells, it was agreed that he should perform ovariotomy on the 20th of December, 1870, and he did so, assisted by Dr. Legonest, of Paris, by Dr. Bantock, by my friend Dr. Shepherd, and by my father and myself. Complete anæsthesia was maintained by Dr. Day with chloro-methyl. An incision five inches long between the umbilicus and pubes exposed a non-adherent ovarian cyst, which was tapped, and one large cavity was emptied. The principal cyst was then opened, cysts broken up, and the whole tumour was drawn out without any of the contents escaping into the peritoneal cavity. A long narrow pedicle on the left side was secured in a small clamp, which was fixed outside the abdominal wall. Scarcely any blood was lost. The right ovary was healthy. The uterus appeared to be as large as a cocoa-nut, and Mr. Wells said it felt like a thin cyst, larger than he should have expected at the commencement of the third month of pregnancy. The wound was united by silk sutures passed through the whole thickness of the abdominal wall. The fluid removed measured eleven and a half pints; the weight of the cyst and solid matter was three and a quarter pounds. Total, about fifteen pounds.

I have little to say of the progress of the operation except that recovery was rapid and complete. The clamp was removed, and the bowels acted on the eighth day. Pregnancy went on quite unaffected by the operation, and a healthy child was born after a natural labour on the 29th of July, 1871. The lady has nursed her child, and has gone on quite as well as after any previous confinement.

This case will serve a useful purpose if it assist us in settling the question, still *sub judice*, as to the proper treatment which should be the rule when pregnancy is complicated by ovarian disease. Dr. Barnes may be taken as the representative of

those who would induce premature labour, and leave the ovarian tumour to be dealt with when the uterus has been emptied, and the patient no longer pregnant. Mr. Spencer Wells, on the other hand, represents those who would, either by tapping or by the removal of the cyst, enable pregnancy to proceed to its natural termination. We have seen the result of this practice in this case. What would have happened if premature labour had been induced?

With a result so satisfactory, it seems vain to speculate on the effect which would have followed a different course of action. Bearing in mind for a moment the dangers besetting a patient afflicted with the double burden of pregnancy and an ovarian tumour—danger created by the unnatural distension or by the possible twisting of the pedicle, or the bursting of the tumour—it would seem at least a cruelty to subject her to a double operation if danger attach to both; and whether we induce premature labour, or whether we tap, we only postpone the day of greater trial.

In spite of the accurate reasoning in Dr. Barnes' admirable work on 'Obstetric Operations,' I am tempted to think that his special skill in the induction of premature labour has made him overlook the remarkable success which has been attained in the few cases in which ovariotomy has been performed during pregnancy. He quotes, however, the case of Mr. Spencer Wells ('Obstet. Trans.,' vol. xi), in which, the tumour having burst, gastrotomy was performed, the peritoneum cleaned out, and the patient not only recovered, but pregnancy went on to term, and the labour was perfectly natural, a living child being born. At all events, I feel justified in saying that if we look at the uncertain efforts of nature to extricate a woman from this complication—that is to say, sometimes by spontaneous abortion, and sometimes by the bursting of the cyst—we ought not to seek to imitate her either by inducing delivery or by tapping, for, whether nature or art produce abortion, the tumour remains; whether the cyst burst or be tapped, art must still step in to save the woman's life.

Ovariotomy, now an accepted operation, has had to fight

its way through more opposition and bitter prejudice than perhaps any other. Sufficient facts have, however, been accumulated to establish it *now* as one of the triumphs of modern surgery. But it seems that a new development is open to it. The peritoneum, it is settled, may be invaded under certain careful precautions, perhaps the most important being that no ovarian fluid be allowed to escape into its cavity; or if it do, that it be carefully removed. May we not now say the peritoneum may be safely invaded under the like conditions *during pregnancy?* Or, if it be objected that the cases are still too few to warrant such a conclusion, may we not say the *tendency* of the cases on record is to prove, not that "we cannot seriously entertain the idea of eliminating the tumour by gastrotomy,"* but rather that gastrotomy has been thus far so good an alternative that it is only necessary it should be followed up to become established, as in many cases, the *best* alternative in this complication.

The reason why tapping was not had recourse to in this case was chiefly that peritonitis, suppuration of the cyst, or omental or parietal adhesion, would be likely to follow, for the simple reason that they do follow in *un*complicated ovarian dropsy in about 45 per cent. more cases than where the patients have not been tapped. Mr. Spencer Wells adduces five successful cases of tapping during pregnancy without any untoward result, and all the children were born alive. But I think that a very careful selection of cases for tapping must be made, because it is only in cases of single or nearly single cysts—the rarest form of ovarian disease—that tapping can be of much use. In the more common form of multilocular cysts risk would be incurred without benefit.

The coexistence of pregnancy suggested the possible occurrence of abortion, but it seemed more likely to happen if the cyst were meddled with and not removed than if it were removed altogether.

The reason why the induction of premature labour was not had recourse to was that already the patient was beginning

* Barnes' 'Obstetric Operations.'

to suffer constitutional disturbance from the double burden, and it was doubtful whether, by the time a viable child could be born, they would not have assumed such magnitude as to imperil her safety; and that, if abortion were induced, the child would be lost, the tumour would remain, and the condition of the patient would be anythiug but satisfactory; nor would it be possible to secure her against the chance of the tumour bursting during labour—an event likely enough to occur at whatever period labour might be induced.

There is a time in most cases when the balance of circumstances favorable to operation is on the side of the patient. There is, on the other hand, a time when functional disabilities and consequent blood deterioration have done their work, and the surgeon's chances of success have proportionately diminished. This is very much more true in such a case as that under consideration. With a rapidly enlarging tumour and with pregnancy advancing it is easy to lose the golden opportunity. And it appears that, if the tumour is of such a size as to have produced symptoms of pressure on important parts, or if it be rapidly enlarging, the state of pregnancy cannot safely be superadded to it for more than three or four months.

In the early days of ovariotomy attempts were made to obviate the capital operation by various procedures—by tapping and injecting with iodine, incision of cyst and formation of fistulous opening, incomplete excision, &c.—but the success which attended them did not justify their frequent repetition. Presently there came more precise knowledge as to what cases were suitable for the performance of ovariotomy, and more care was taken in the after-management of patients, so that the practice of the great operation became inevitable, while the lesser ones were virtually abandoned. The same argument seems to me to apply with increased force to cases where pregnancy complicates ovarian disease. The capital operation is the straightest and most certain road to safety, and we should no longer seek to find peace by temporising in indirect by-ways, but rather hope that the good surgeon, like the good engineer, may find his way to success through that

road which, although the most secure, seems beset with the greatest obstacles.

Mr. Scott observed that the question of tapping the cyst or its removal was one of deep interest, and, as bearing upon the point, he would refer to his case of ovariotomy which had been incidentally mentioned during the evening. In that case the patient had passed through two labours at term in safety. Had tapping been had recourse to, no beneficial result could possibly have followed in consequence of the viscid nature of the contents, and of the large cyst being subdivided into many smaller ones with such dense walls as to require being cut through by the scalpel. Another danger of leaving the cyst to take its chance was exemplified in the same case, viz. the possible twisting of the pedicle by the gradual development of the impregnated uterus. Here the pedicle had one complete turn, which must have caused strangulation of the cyst had it not been unusually long,

Dr. Ross related a case in which Mr. Wells operated under more adverse circumstances, as the lady was much broken in health at the time of the operation. She first consulted Dr. Ross about eighteen years ago, when she was about twenty-two years of age. She was then suffering from obstinate constipation, occasional acute pain in the right side and iliac region, scanty and irregular catamenia. A small tumour was detected in the right iliac region, which was considered to be ovarian. Dr. Ross saw her at intervals, for two or three years; he then lost sight of her for seven years, when it appeared that she had been married and had borne a child. Dr. Ross had since that time attended her in four accouchements. In no instance was parturition attended with any serious difficulty. She had miscarried between her second and third child, and her third labour was followed by smart flooding. After this in July, 1865, she was seized with very violent paroxysms of pain in the abdomen, which occurred at intervals for a few days. It is probable that at this time the pedicle of the ovarian cyst was twisted, for at the operation it was found that the tumour was without a pedicle. It was observed that during gestation the tumour became smaller, owing, probably, to absorption of fluid caused by pressure of the gravid uterus, but that in two or three weeks after her accouchement she was apparently as large as during the last months of her pregnancy. The rapid increase of the tumour during the last year or two gave her much anxiety, and she consulted Mr. Spencer Wells, who advised removal. She was then in about the second month of pregnancy. Mr. Wells diagnosed a dermoid

tumour, which turned out correct. The lady recovered, and her accouchement is now daily expected.

Mr. Spencer Wells said that the existence of the cyst for eighteen years or more, and the presence in its walls of hard bone-like masses had led to the diagnosis of dermoid tumour. In the cavity there was a mass of hair and fat like an enormous chignon. There was no pedicle, the whole blood supply having been kept up through the vessels of adhering omentum and mesentery. Tapping such a cyst would have been quite useless. The two cases narrated by Mr. Goddard and Dr. Ross, and the two published in the eleventh volume of the 'Obstetrical Transactions,' were the only cases in which he (Mr. Wells) had performed ovariotomy during pregnancy, and all the patients recovered.

Dr. Granville Bantock said it had been his good fortune to be present at the operation in the case which formed the subject of the paper, and he thought that great credit was due to Mr. Spencer Wells, not only for the skill with which he had performed the operation, but for the skill which he had exhibited in the diagnosis of the case. The diagnosis of pregnancy at an early stage, such as was the case in this instance, was not always an easy matter. He had some four or five years ago assisted at an ovariotomy in the case of a lady who for nine months had all the usual symptoms of pregnancy. Her nurse was summoned for the labour, and her medical attendant had even paid her a visit, and it was not till after the lapse of a week or two that it was ascertained that she was the subject of an ovarian tumour. He could not agree with his friend Dr. Murray in his objection to the radical operation in similar cases, for one fact was worth any number of theoretical objections. It was fitting that these cases, so full of instruction from many points of view, should be withdrawn from the partial obscurity which surrounded them when mixed up in a record of several hundred cases, and he thought the thanks of the Society were due to Mr. Goddard for the admirable manner in which he had brought the subject before them.

The President remarked that in the case of a compound or solid cyst, if relief must be given, then the choice lay between induction of labour and ovariotomy. The cases of Mr. Spencer Wells showed, so far as they went, that the results of the latter had been satisfactory, and no doubt in his hands the question would receive an intelligent solution.

FIBROUS ENLARGEMENT OF THE UTERUS SUCCESSFULLY TREATED BY ERGOT OF RYE.

By John Brunton, M.A., M.D.,
SURGEON TO THE ROYAL MATERNITY CHARITY.

Miss J. N—, æt. 47, came under my care for disorder of the liver in March, 1869. Her symptoms were pain in the right hypochondriac region, extending upwards to the shoulder, and down the right arm to the elbow, and downwards to the right iliac region; sickness after every meal; intervening nausea; loss of appetite; flatulence; furred tongue; high coloured urine, abundant in lithates; and the other general symptoms of dyspepsia.

She told me that she had been under treatment in Edinburgh and Glasgow for the same complaint, and had been freely blistered and dosed with calomel, and a variety of other remedies. She got somewhat better, but after coming to London the old symptoms returned.

I put her under a regular course of treatment, iodine externally and internally, colchicum, bicarbonate of potass, effervescing mixtures, and afterwards mineral acids, with bitters. She improved a great deal, but did not get (after three months' treatment) well enough to satify me.

I then desired to examine her in bed, as I was inclined to think that there was some other disease present than disorder of the liver and dyspepsia.

On examination I could detect no enlargement of the liver whatever, no tenderness, fulness, nor hardness in epigastric region; but on palpation of the lower part of the abdomen I found a large swelling, somewhat movable, just like the uterus at the fourth month of utero-gestation. The tumour was pear-shaped, smooth and hard. Auscultation revealed no sounds of any kind. The tumour was very slightly tender when manipulated, and occupied the lower and middle part of the abdomen and pelvis. Per vaginam nothing could be made out, as the hymen was intact, tough, and with a small open-

ing, such as would only admit the tip of my little finger. Considering the character of the lady, I had no suspicion of pregnancy, and she was not in that condition.

I now set about a further inquiry into her history, and I elicited the following.

She had always been in good health, and the menstrual functions were very regular, till on the 4th of June, 1865, nearly four years ago, she had a severe attack of menorrhagia. She was then 43 years of age. After this she used to have some morning sickness, she felt weak, and could not stand active work without feeling sick. She felt from this time as if she were larger in the right iliac region. Menstruation became more frequent and excessive, and soon assumed a fortnightly period. She never was laid up, but occasionally, and in the intervals, she had some leucorrhœa. Her bowels were regular in action; appetite fair; she gained flesh, but did not sleep well. Sometimes she had a good deal of pain in the right iliac region, increased at the menstrual period.

She was now leading a sedentary life, attending upon an aged relative. About a year after, this pain came on in hepatic region, back of head, and right arm, noises in the head, sickness, and general symptoms much the same as detailed when she first came under my care. As I mentioned, she was now treated in Edinburgh, and afterwards in Glasgow.

I may say that the enlargement in the right iliac fossa had been looked upon as flatulent, until I detected its true nature by examination in bed.

The discovery of the tumour was made in May, 1869. Her bowels were then regular; she had no difficulty with her bladder; menstruation recurred fortnightly, being abundant, but not excessive. The base of the tumour was midway between pubes and umbilicus. There was no bearing-down. My diagnosis was that there was fibrous enlargement of the whole uterus.

I have omitted her personal appearance. At this time she was stout, rather thick set, well covered with flesh, of medium complexion, tending to fair, skin clear and firm, no cachectic hue.

I commenced treatment by enjoining rest, with moderate and short exercise, good diet, of a light and nourishing nature, the external application of iodine over the tumour, and the exhibition of drachm doses of bromide of potassium in a bitter infusion three times a day.

This was continued steadily for upwards of a month without any apparent change for the better. Menstruation was still as frequent as before, sickness continued, and the tumour gradually became larger. She was now more easily fatigued, and her appetite began to fail her.

On the 2nd of July I asked Dr. Graily Hewitt to see her in consultation. He quite agreed in my opinion of the case, advised the continuance of the bromide, and to be watchful in case of hæmorrhages. At this time the base of the tumour had nearly reached the umbilicus.

I continued this treatment for about two months longer without any success, and then tried large doses of liquor potassæ, as advised by Sir James Paget in the case of large fibrous tumours. No benefit followed, and, as her health was failing, I had recourse to iron and quinine, with morphia at night.

Affairs remained *in statu quo* till November, when the menstrual flow gradually increased and became threatening. I gave at various times digitalis, morphia, and latterly tincture of cannabis indica, beginning with ten minim doses, gradually increased until she could take eighty drops without producing any narcotic effect. The hæmorrhages increasing at each menstrual period, I ceased the cannabis indica, continued the tonics and diet, and at the onset of the next hæmorrhage I gave her ergot of rye in full doses. She had three drachms of Thompson's liquor ergotæ, equal to three drachms of the powder, each day during menstruation, with little or no effect at first. I say little or no effect at first because I soon found that to get any controlling effect from the ergot it had to be given at least twenty-four hours before the onset of the hæmorrhage.

The hæmorrhagic discharges being now excessive, they told very much on her constitution ; she became anæmic, with

a small rapid pulse, weak, and disinclined for food of any kind. Brandy, whiskey, or rum mixed with milk, were freely given, a little solid food was occasionally taken, yet, in spite of all the hæmorrhage, she did not lose flesh, but apparently became stouter.

On the last night of 1869 most alarming symptoms set in with the hæmorrhage—violent delirium, restlessness, and insensibility—with weak rapid pulse. She had had half an ounce of ergot that day, but the hæmorrhage was very severe, thin, and dark, and filling a chamber utensil. The delirium lasted some hours; her friends as well as myself expected her to die shortly. As the restlessness was very great I injected half a grain of morphia into her arm, when in a short time she became quiet and fell asleep. She slept till morning and awoke very weak and exhausted. She gradually gained a little strength till the next menstrual period, when a similar course of events ensued. The tumour had now reached as high as the umbilicus, was smooth, round at base, and tapering to the neck of the uterus. Great pain associated itself with the onset of the hæmorrhages, so that I always was informed in time to apply the ergot, and at the same time hypodermically injected morphia.

It is not necessary to enter into much further detail, except to say that on each occasion after this from one to two ounces of ergot were taken at each period with controlling effect. The hæmorrhage was still severe, and in the intervals a good deal of leucorrhœal matter, mixed with membranous-looking shreds, was discharged.

In March the tumour was evidently decreasing, the patient was very weak, but curiously was not thinner, only anæmic.

By the beginning of June the whole tumour had disappeared, *i. e.* it could not at all be detected above the pelvis, nor in it, and there was little or no increase in the bulk of the uterus, examined per rectum.

The patient increased in strength and weight, took food better, was able to take walking and carriage exercise, although the catamenia remained excessive and recurred fortnightly with great regularity till June. She now went to

Scotland, is there now, and I had a letter from her a short time ago in which she says that, though better in health and strength, and all enlargement gone, the catamenia are still excessive and frequent, but she manages to get on very well by help of the ergot and morphia.

During the half year I think she took from forty to fifty ounces of ergot, and was injected with morphia very often, sometimes daily.

Remarks.—That the case narrated is one of fibrous enlargement of the whole substance of the uterus, and not a distinct or separate fibrous tumour is borne out by the careful observation I made of the case during its course, as well as by the opinion of Dr. Graily Hewitt, and Dr. Smeal, of Ararat, Australia, who saw the lady several times with me and for me.

The history of the case is of great interest. It adds one to the list of cases so ably narrated by Dr. Playfair in the tenth vol. of our 'Transactions,' a paper that is well worthy of earnest perusal.

Dr. Playfair goes so fully into the subject that it is scarcely necessary for me to enlarge on it. After discussing the treatment, and the probable cause of the disappearance of large, fibrous uterine growths, he thinks that the solution of the problem depends on the structure of such growths, and it seems to me that the solution of this case, a case of enlargement of the whole uterus, will also be found to depend on its structure. He says (p. 109) "there can be no question that the structure of fibroid growths bears the closest resemblance to that of the uterus, which is their seat, the main element in them being organic muscular fibres, similar to those in the uterus."

And this gives the key to my method of treatment. Holding views exactly similar I endeavoured to promote absorption by bromide of potassium, tonics, sedatives, &c., but on these failing I had recourse to the action of a medicine which is reputed to have great power in producing contractile action of the muscular fibres of the uterus. I believe its action in this case was purely mechanical. We know that one of the best agents in promoting

absorption is mechanical pressure, and it was on this principle I gave the ergot in very large doses to act on the uterine fibre, control the excessive hæmorrhages, and reduce gradually the bulk of the organ. I believe that the ergot kept up its action, and that the leucorrhœal discharges occurring in the menstrual intervals, and the flaky membranous shreds and detritus were thrown off and squeezed, so to speak, out of the uterus. At the same time, I have no doubt that there was active absorption going on, and that all these processes continued together till the total disappearance of the tumour took place.

This case, while it bears a close relationship to those narrated by Dr. Playfair, differs in certain main features.

1st. It was not a distinct tumour growing into or from the uterus, but of the whole.

2nd. Though its growth began at much the same time of life as some of those cases narrated by Dr. Playfair, viz. near the period of cessation of menstruation, yet menstruation had not ceased after the disappearance of the tumour, nor has it now, but goes on with nearly the same regularity.

If the cessation of menstruation, and the atrophy of the uterus consequent on that event, had a powerful influence in promoting absorption in the cases narrated by Dr. Ashwell and quoted by Dr. Playfair, certainly I cannot think that such an influence is of much account, if any, in this case; but I am more inclined to take Dr. Playfair's view, that the atrophy is of a kind similar to that taking place during involution of the uterus after delivery. In both cases we have contraction, absorption, and discharge of detritus.

Another feature of interest is that the subject was one whose uterus had never been impregnated.

And, in conclusion, I would call the attention of the Fellows to the great advantage I found in giving the ergot at least twenty-four hours before the onset of the hæmorrhages.

Dr. Tilt said that, in addition to many cases of fibrous tumour of the womb, he had met with two cases in which the womb had become fibrous in its totality. In one the womb was about

the size of an ostrich egg, its external surface was perfectly smooth, and felt as hard as cartilage. The patient, aged 30, had to stand about a good deal, suffered much from pain in the back, and had occasional hæmorrhage, but had not been invalided. He recommended the internal and external exhibition of iodine, and learned with surprise, some months afterwards, that the size and hardness of the uterus had diminished ; at all events, the patient ceased to suffer. The other patient was sent to Dr. Tilt ten years ago ; she was then 27, single, there was a previous history of backache, menorrhagia, and retention of urine, which had made medical advice imperatively necessary. Dr. Tilt found a uniformly ovoid, and very hard body, larger than an ostrich egg, with a small soft neck of the womb about an inch long. The bladder disturbance, vaginitis, and dyspepsia were soon cured. Dr. Tilt has seen this patient every year, for the last ten years, and he has only been able to keep check in these complications, and he has not prevented the gradual growth of the womb, which is now about as large as in the seventh month of pregnancy, and he could believe that large doses of ergot would have been more effectual than other remedies. The menorrhagia is still a prominent symptom, but as it never menaced life Dr. Tilt had not felt justified in having recourse to *intra-uterine* treatment. His diagnosis was confirmed by Dr. Oldham and Dr. Bennet, who agreed with him that the removal of this enormously enlarged womb was not to be thought of.

Dr. Playfair said that the case brought forward by Dr. Brunton, though interesting in itself, could scarcely be claimed as one of the class he had spoken of in his paper " On the Spontaneous Absorption of Fibroid Tumours of the Uterus." That referred only to the ordinary fibroids so commonly met with ; this seemed to be a case of general fibroid enlargement of the whole organ, a pathological condition with which he was not familiar. With regard to the general question of the possibility of the absorption of fibroids, he wished to say that those gentlemen who disbelieved in it were scarcely fair in the way in which they treated the question. They assumed that he and others, such as Mr. Spencer Wells, who believed in the possibility of such an occurrence, claimed to have the power of effecting such absorption by medicinal treatment ; and then they argued that it was an impossibility, because they had never seen the slightest diminution in a fibroid under any method of treatment they had adopted. Now, he certainly had never made such a statement, nor, so far as he knew, had any one else. What he had said was, that nature, in certain rare and exceptional cases, did what art was unable to accomplish. He had brought forward several very carefully observed cases, and he claimed for them an impartial study, in the hope, which seemed to him not unreasonable, that we

might, by observing nature's process, eventually arrive at some means of assisting it. This, at present, we certainly do not possess. He believed that the process was similar to the involution of the uterus occurring after delivery, when the enormous mass of the enlarged uterus was so marvellously absorbed. It is just because the tumours resemble in structure the tissue of the uterus itself, a tissue in which great alterations of bulk naturally occurred, that he thought such a change was possible. It was a strong argument in favour of this view that the spontaneous absorption of uterine fibroids occurred in many cases after delivery, when the hypertrophied uterus was undergoing involution, which probably extended to the tumours, and effected their removal. Dr. Meadows, and others who shared his opinion, had been very hard on the credulous people who believed in this occurrence, and said that nothing of the kind had happened, because they had never met with such cases. But this was no argument against the view he held, since the cases were confessedly of great rarity. His own cases had been contested, and he was assured that he must have made an error in diagnosis, and mistaken pelvi-peritonitis and other similar conditions for fibroids. He was confident that this was not the case, but he did not rely on his own observations alone. The recorded instances are now too numerous to admit of any reasonable doubt on the subject. He would specially refer those interested in the question to the very carefully recorded case published by Dr. Matthews Duncan, himself previously a disbeliever in spontaneous absorption. This case had been examined, not only by Dr. Duncan, but by several other physicians well skilled in uterine diagnosis, and was of itself sufficient to settle the question at issue.

NOTE ON THE STRUCTURE OF THE UTERUS AND THE CHANGES THE TISSUES UNDERGO DURING PREGNANCY AND AFTER PARTURITION.*

By T. Snow Beck, M.D. Lond., F.R.S.

The uterus is usually described as consisting of three portions or coats—an outer or serous portion, being the reflection of the peritoneum over the upper segment of the organ; a middle or muscular portion, comprising nearly the whole of the substance; and an inner or mucous portion, termed the internal mucous membrane. No one, I apprehend, will doubt that the uterus is covered, at the upper and posterior parts, by a reflection of the peritoneum, but the division of the remaining part into a muscular portion and a mucous portion or mucous membrane does not appear to be borne out by the facts when the tissues of which it is composed are carefully examined.

Dr. Arthur Farre, in his able and valuable description of the structure of the uterus ('Cyclop. Anatomy and Physiology') describes each of these three portions separately, yet he also admits "that no strict line of demarcation is discernible by the microscope between the three several coats of which the uterus is said to consist. These coats cannot, like the three coats of the intestine for example, be separately displayed, because each passes imperceptibly into the others, so that although to the naked eye an apparent distinction may be observed, this distinction in a great measure vanishes under the application of the microscope." There is so little doubt, however, of the reflection of the peritoneum that it must be excluded from these remarks, and for the same reason I will omit it in

* I am aware that much in this note is a repetition of what is well known, but I do not see how I could avoid this, and yet give a connected sketch of the principal changes.

the subsequent description. The tissues of which the remaining portions consist are admitted to be identical, though the relative proportions of them vary considerably. The elements of these tissues are—

(*a*) Small, solid, fusiform fibre-cells, which usually present a small oval nucleus near the centre, and which become so largely increased in size in the gravid organ. They are termed by Kölliker contractile fibre-cells.

(*b*) Oval or round corpuscles, sometimes termed elementary corpuscles, which consist of granular contents enclosed in a cell-wall.

(*c*) Minute molecules or granules of varying size, and which appear solid and of uniform structure.

(*d*) Amorphous transparent homogeneous tissue, in which the corpuscles and molecules and granules lie imbedded.

But these elements are not found in all parts of the uterine walls, nor are they associated in the same proportions where they do exist. On this subject Dr. Farre remarks—"According to my observations the contractile fibre-cells are not distributed in equal proportions through all parts of the muscular coat, nor are they found everywhere in the same condition. It has been already stated that no strict line of demarcation is discernible by the microscope between the three several coats of which the uterus is said to consist. And this is particularly the case in respect of the muscular fibres which permeate all of them. In the so-called mucous membrane the muscular fibres are loosely arranged in an amorphous tissue, in which they are imbedded, intermixed with the elementary nuclear corpuscles, constituting their embryonic condition. Here the fibre-cells form bundles, situated between the ramified canals or utricular glands of the uterus, and take a direction more or less oblique or perpendicular with regard to the inner uterine surface. But at the level of the base of the uterine follicles, where the proper muscular coat is considered to begin and the mucous membrane to terminate, the contractile fibre-cells assume a different direction and arrangement" (p. 633).

I am obliged to differ from Dr. Farre in some of these

statements, as will be seen in the sequel. But there is one I may now refer to—that the corpuscles constitute the embryonic condition of the contractile fibre-cells. Dr. Farre further speaks of them as "*apparently* the elementary or embryonic condition of the fusiform fibre-cells." There is, however, strong evidence against this view. (*a*) The great majority of these corpuscles remain as corpuscles during the whole period of their existence, and are thrown off as such in the decidua after parturition. (*b*) They are not mixed up with the fibre-cells, as we should expect they would be if they were the embryonic condition of these fibre-cells. The fibre-cells being arranged in bundles or bands without any of these corpuscles being mixed up with them, though these corpuscles, with the other elements of the soft tissue, lie on the outside of these bands and in the interspaces between them. (*c*) If the one were the embryonic condition of the other we should suppose that the corpuscles would be in the greatest amount where the fibre-cells were afterwards found in the largest number. But the contrary is the fact. At the outer portion of the uterine walls, where the fibre-cells exist in large quantities, the corpuscles are in small number if not entirely absent. And at the inner surface, where these corpuscles abound, there are not any fibre-cells at any time present. There is one possible source of error here which may not have been taken into consideration where observations have been made upon uteri which remain unduly enlarged after impregnation. In many of these uteri the fibre-cells retain the nucleus so large, and become so altered in shape at either or both extremity, as readily to lead to the conclusion that they were apparently corpuscles undergoing a gradual transformation. But more careful observation suffices to make their true nature apparent.

The elements, then, of which the uterine walls are composed, and which form the distinguishing tissues of the organ, are—(*a*) fusiform fibre-cells; (*b*) oval and round corpuscles; (*c*) minute molecules or granules; (*d*) amorphous transparent tissue.

These elements, however, are not mixed or mingled to-

gether in the uterine substance, but are arranged in two distinct groups:

(1) The fusiform fibre-cells form striæ, bands or layers, of varying size, having in the unimpregnated organ a small amount of amorphous transparent tissue surrounding each fibre-cell. These striæ, bands, or layers, cross and interlace with each other in some, as yet, inexplicable manner, and constitute the contractile tissue of the uterus.

(2) The oval or round corpuscles and minute molecules or granules are imbedded in a considerable amount of transparent amorphous tissue, are always associated together, are apparently endowed with distinct properties from the fibre-cells, and together constitute what may be termed the soft tissue of the uterus.

These tissues, with the numerous blood-vessels, absorbents, nerves, some cellular connective tissue, and a small amount of elastic connective tissue, constitute the substance of the uterus. The utricular glands, mucus-crypts, and delicate ciliated epithelium, appear to be additions to the soft tissue; but it is only the arrangement and changes of the contractile tissue and of the soft tissue that I propose to consider at present. It is well known that the contractile tissue exists in the body of the uterus in large amount, and in large bands or layers. Immediately beneath the peritoneum it takes on a reticular form, where it has been described as large flat nerves and nervous ganglia of monstrous size; towards the inner surface it is arranged in small bands or striæ, leaving interspaces between them which are all filled up with soft tissue. It exists in smaller amount in the substance of the neck of the uterus, where, towards the outer surface, it becomes mixed up with a considerable amount of connective cellular tissue.

There is not any contractile tissue at the internal surface, which is composed entirely of soft tissues, and this has the soft, grayish, semi-transparent appearance which has been described as an internal mucous membrane. At the inner surface of the body the soft tissue has the utricular glands imbedded in it, and at the neck is arranged in folds or plicæ with numerous mucus-crypts. The utricular glands, to a

considerable extent, confuse this tissue and render it opaque. But beneath the terminations of these glands, and external to them, a distinct line of transparent soft tissue exists, and a little more external the opaque margin of the contractile tissue begins. The soft tissue, however, does not end here, for it is continued into the substance of the uterus, lying in the spaces between the striæ of the contractile tissue, which, towards the internal surfaces, are fine or small, with considerable interspaces. The soft tissue penetrates into the walls of the uterus, and is met with in decreasing amount as the examination proceeds towards the outer surface. It still exists in the external layers, where it is chiefly met with associated with the arteries.

Thus, the walls of the uterus essentially consist of two parts.—(*a*) The contractile tissue destined to expel anything contained in the uterine cavities, and which exists in greatest amount at the outer and middle portions, whilst towards the inner surface it is divided into smaller striæ with considerable spaces between them. (*b*) The soft tissue which lines the internal surface, where it exists alone to some thickness, and afterwards penetrates a considerable distance into the substance, lying between the striæ and bands of the contractile tissue. It is destined to form the placenta which is thrown off at the completion of parturition, together with the inner layer from the whole of the inner surface of the uterus, as decidua. But it is only the inner layer of the soft tissue which comes away, the principal portion yet remaining in the inner portion of the walls.

When making the sections of the uterine walls, from which this description is chiefly drawn, the arrangement of the vascular system was shown. The whole formed a continuous system, and the arteries, when they approached the inner surface, assuming a straight line, and ending in the capillary network, were well made out. So continuous did this system appear that it seemed inconceivable how any portion of it at the internal surface could be influenced by inflammatory action without the whole being engaged in the same morbid process, and hence arose a doubt as to the probable

existence of such an affection as internal metritis, distinct from inflammation of the general substance of the organ. In the neck of the uterus the folds and plicæ which constitute the characteristic arborescent appearance of the part were formed by the soft tissue. The numerous papillæ also consisted of prolongations of the same tissue, enclosing, in the smaller, a loop of capillary vessels; and in the larger two or three vessels with a capillary network on the surface. These papillæ, being especially large and numerous in several cases near the external orifice, formed, when congested, one of those appearances so frequently described as the luxuriant granulations of some supposed ulceration, whilst the well-defined margin at the inner surface of the lips of the uterus, formed by the termination of the mucous membrane of the vagina and the commencement of the soft tissue on the inner surface, was in all cases clear, though in some more defined than in others. The squamous epithelium of the vagina also terminates at this margin, where for a very short distance it assumes the spheroidal and transitionary form, and soon takes on the columnar shape which covers the whole of the internal surface.

Thin sections of the walls of the body of the uterus, previously rendered translucent and hardened, made in a longitudinal direction and at right angles to the inner surface, show a general view of the arrangement of the tissues in the uterine substance (Plate VII). The inner surface to the depth of about one twelfth of an inch is translucent and occupied entirely by soft tissue, in which different sections of the utricular glands are seen. This translucent portion is bounded by a definite line of more opaque tissue, which is the innermost layer or band of contractile fibre-cells, arranged in a longitudinal direction to the long axis. Passing outwardly from this inner line, and extending through the whole substance of the organ to the peritoneal surface, is a most intricate network of bands of contractile tissue, the fibre-cells of which are arranged in various directions to the long axis of the organ. Whilst near the middle of this mass of contractile tissue several venous sinusses are seen cut

across, each being surrounded by a circular layer or tube of the fibre-cells, forming a special investment of contractile tissue, and the smaller sections of the arteries are spread over the whole thickness, being more numerous and smaller towards the inner surface. The arrangement of the fusiform fibre-cells in the various bands has special reference to the contraction of these different bands or layers, the combined action of which constitutes the contractions of the whole organ. Some idea of this general arrangement has been attempted to be given in Plate VII, which is an exact representation of a section of the walls of the uterus, drawn by the lines of a micrometer. The white lines which intersect it in every direction (*b b*) are bands or layers of contractile tissue, the fibre-cells in which are arranged longitudinally, and hence, when they contract, constrict the organ lengthways, or, in other words, draw the fundus and the orifice towards each other. The dark portions (*c c*) represent bands of contractile tissue, the fibre-cells of which are arranged around the organ, or transversely to the long axis, crossing the organ in various oblique directions; and when the fibre-cells in these bands contract they constrict the organ transversely or diagonally from right to left, or from left to right. The combined operation of these different actions, when they contract simultaneously, is necessarily to produce the well-known contraction of the gravid uterus, viz., a simultaneous constriction or contraction in every direction. The appearance or arrangement of the bands or layers themselves of the contractile tissue afford no evidence of the direction in which these bands will contract, which evidence is only to be derived from the arrangement of the fusiform fibre-cells in each band or layer, as shown by the aid of the microscope. The soft tissue which exists at the inner surface (*a a*) also extends into the substance of the walls. It is seen in greatest abundance in the interspaces amongst the innermost bands of contractile tissue, and also at various points of the section (*d d*) lying on the longitudinal layers of contractile tissue, or aronnd the bands arranged transversely. It is not seen as a continuous layer

in the section, but only at points where it has been exposed in the section. Many sections of utricular glands were seen (*e*) all placed in an oblique direction to the inner surfaces, and most of them in the inner layer of soft tissue. But many were nearly double the length of the general mass, and in the soft tissue between the inner bands of contractile tissue. They all presented an appearance different to that usually described. The end furthest from the surface having a bulbous enlargement, which was lined by strongly-marked, square, columnar epithelium, and after a short distance this bulbous enlargement ended in a smaller tube, which led to the inner surface, and was lined by modified epithelium more of the spheroidal character. In several sections, this bulbous enlargement appeared to consist of two and even three dilatations, which ended in one smaller tube or apparent duct.

Assuming this description of the structure of the uterus to be correct, the changes which take place after impregnation, the condition in which the gravid organ is left after parturition, and the subsequent changes which occur, can be readily understood. With the commencement of pregnancy the tissues generally take on an increased growth and become quickly increased in size; but there are some exceptions to this general rule. It is not clearly known what finally becomes of the utricular glands, whilst the columnar epithelium disappears soon after the ovum has reached the uterine cavity. In the midst of this general growth it certainly is a marked exception that the nervous tissue of which the nerves are composed should not be increased in thickness, nor even in length. The nerve-tissues of which the nerves are composed are not increased in number nor in thickness, whilst the increased extent of surface over which the nerves are required to be distributed in the gravid organ is provided for by the same system of undulation and folding which enables the nerves to accommodate their distribution to the increased surfaces in all distensible organs, as the bladder, stomach, &c., only carried to a much greater extent.

With the general increased growth the fusiform fibre-cells

become the colossal contractile fibre-cells of the gravid uterus. There is no sufficient reason to suppose that the increase in size is anything more than great enlargement of the previous existing fusiform fibre-cells, which enlargement again disappears after the termination of the pregnancy by the usual process of fatty degeneration.

This decrease in size does not, however, always take place, and the contractile tissue remains more or less increased in size, rendering the organ liable to take on various morbid conditions. The soft tissue also participates in the increased activity. The round or oval globules become increased in size and in numbers, apparently from the development of the molecules, and the amorphous tissue is greatly augmented. This occurs whether the ovum reaches the uterus or becomes arrested in any part of its transit. The development first takes place in the tissue at the cavity of the body of the uterus, where it is especially shown by the great enlargement of the utricular glands which nearly obliterate the cavity by the apposition of the opposite surfaces, and as the pregnancy avdances gradually extends to that of the tissue at the neck. The mucus-crypts are early influenced and throw out an increased secretion of tenacious mucus. Should the pregnancy be arrested at an early stage the increased soft tissue is separated from the inner surface of the cavity and retains its triangular form, with an opening at each upper angle where it is divided from the openings of the Fallopian tubes, and a larger opening at the lower angle where it has been separated from the tissue lower down at the internal uterine orifice. Sometimes the tenacious mucus in the neck adheres to this lower orifice, where also a small coagulum of blood is occasionally added. The whole surface further presents minute openings, which are the enlarged orifices of the utricular glands, giving to it the appearance said to resemble lace. The whole of these appearances, however, are the consequences of the increased growth of the soft tissue and utricular glands, and are somewhat modified in accordance with the period at which the pregnancy has been arrested and the uterine contents expelled. Should, however, the pregnancy

advance in a healthy manner, the ovum, on reaching the uterine cavity, may become attached to any part of it. Various theories have been advanced to account for this attachment. But it has always appeared to me most probable that this may be determined by the swollen state of the soft tissue and the great enlargement of the utricular glands which oppose a soft but efficient barrier to the further descent of the ovum. But whatever may be the cause of the arrest, the tissues at the part in contact with the ovum undergo a further increase in development, swell up, partially enclose the ovum, and finally form the maternal portion of the placenta. At the same time the adjacent portion of the fœtal membranes becomes developed into the fœtal portion of the placenta. As the ovum grows the cavity of the uterus becomes fully occupied, the fœtal membranes come in contact with the soft tissue on the inner surface, the tissues in the neck of the uterus gradually form part of the general cavity, and the pregnancy reaches the full term. At the full term the contractile tissue, now fully developed, becomes active, the fœtus is expelled, and by the further contraction of the organ the placenta is pealed off, and with it the inner layer of soft tissue is thrown off as decidua. This separation is facilitated by changes which appear in the soft tissue near the full period of pregnancy. The round or oval corpuscles become less numerous, and numerous molecules of fat appear near the line of the future division.

The decidua and the formation of the placenta appear to be the natural development of the soft tissue which exists at the inner surface of the unimpregnated uterus, and at the completion of parturition is thrown off from the surface as now useless products, and there does not appear any sufficient reason to apply special designations to particular portions of it. When the ovum is expelled about the middle period of pregnancy—say the fifth or sixth month—the conditions are modified in a manner it is desirable to bear in mind. At this period the soft tissue is still in active growth, no fat-globules are observed, no preparation appears to be made for the separation of the internal layer; at the seat of the placenta

the tissue is firm and comparatively strong, and the consequence of all this is that the separation is effected with considerable difficulty, and extends only to a varying point in the uterine neck. Moreover, the contractile tissue is only partially developed, and it acts feebly and imperfectly. Not only are the placenta and decidua thrown off with difficulty, but the organ partially contracts and only partially obstructs the venous sinuses. This open state of the vessels not unfrequently allows troublesome hæmorrhage to occur, to be followed by purulent infection of the general system. Occasionally a portion of the placenta remains connected with the uterine walls, when it is said to be unnaturally adherent. It would be more correct to say that the tissue at the seat of the placenta, as well as the whole of the inner surface, is as yet firm and cannot be divided from the same tissue which enters into the walls of the uterus. These difficulties are too frequently seen in criminal abortions, where the pregnancy is arrested whilst all the tissues are in a state of active and healthy growth.

After the completion of parturition the size of the uterus depends upon the amount of contraction which is present. If complete, the walls are firm, compact, and comparatively elastic; if incomplete, the organ is soft and flabby, and resembles a large empty sac. And what has taken place is simply that the redundant and now useless amount of soft tissue has been pealed off from the inner surface, leaving it essentially in the same state as it was previous to the pregnancy, only much increased in size. But it may be well to mention the appearances observed, premising that the examination should always be conducted under water. Examined soon after the parturition, the surface is more or less covered with blood, not unfrequently associated with coagula; after the lapse of a few days the surface is found covered with a thick tenacious mucus of a more or less red colour, either uniform or in streaks, depending upon the admixture of blood. In either case the blood or mucus is readily removed by a stream of water, when the surface is seen everywhere covered by fine shreds or flocculi of a gray appearance, and which

float in the water. Not unfrequently small coagula project from some of the orifices of the divided venous sinuses where the placenta had been formed, and more or less blood is extravasated in the tissue near the orifice. The whole surface has precisely the rough, ragged appearance which might be expected after a layer had been gently torn from it. These shreds or flocculi are readily removed by a fine pair of forceps, and when removed leave the surface smooth and uniform. At the part where the placenta had been situated the tissue is usually whiter, more opaque, and firmer, and projects somewhat above the surrounding surface. The shreds which float from it are also longer and firmer; but from whatever part these are taken and examined with the microscope they present the usual elements of the soft tissue, *i. e.* round or oval corpuscles, granules or molecules, transparent amorphous tissue, with generally more or less fat-globules. After the removal of these shreds or flocculi the general surface has a coarse reticulated aspect, caused by the interlacing of the fine striæ of contractile tissue, which leave round, oval, or diamond-shaped depressions between the most prominent striæ. The surface is, however, everywhere covered by a smooth layer of soft tissue, which also penetrates into the uterine substance between the contractile striæ. And at the seat of the placenta many open orifices of the divided venous sinuses, with torn and serrated margins, are readily perceived. After a short time the loose shreds or flocculi appear to pass away with the lochia, the usual fatty degeneration of the tissues takes place, and the organ gradually shrinks to much the same size as previous to impregnation. The inner surface again becomes covered by ciliated columnar epithelium, utricular glands are found in the soft tissue in the cavity of the body of the organ, and mucous crypts in that at the neck. Not unfrequently, however, the soft tissue at the inner surface, as well as that in the substance of the walls, is not sufficiently removed after the expulsion of the ovum, and thus causes one form of enlargement after impregnation. Generally in these cases the blood-vessels remain enlarged and the whole organ is much congested.

This description differs from that of the highest authorities, who appear to have considered the changes which take place after impregnation as being in some way analogous to inflammation. The truly celebrated John Hunter says—"At the time, or very probably before, the female seed enters the uterus, coagulable lymph, from the blood of the mother, is thrown out everywhere on its inner surface, either from the stimulus of impregnation taking place in the ovarium, or in consequence of the seed being expelled from it. . . This coagulable lymph forms a soft pulpy membrane, the decidua." "That coagulable lymph was thrown out everywhere on the inner surface of the uterus (during pregnancy) and that the changes which induced it were somewhat analogous to inflammation" ('Observations on certain Parts of the Animal Economy'). Similar opinions were introduced by Dr. Matthew Baillie in the text of Dr. William Hunter's work, 'An Anatomical Description of the Human Gravid Uterus.' "The decidua resembles a good deal in its appearance, as well as in its mode of formation, the laminæ of coagulable lymph which is formed by inflamed surfaces. Both membranes are of a yellowish-white colour; both are tender, pulpy, and vascular. The laminæ of coagulable lymph are formed by an inflamed membrane; the uterus, before the decidua is formed, becomes much more vascular, so as to change into a state somewhat analogous to inflammation." And the celebrated pathologist Cruvielhier appears to express a similar opinion when he states, "The whole of the mucous membrane (of the uterus) has been altered by the inflammation of which it has been the seat" ('Pathol. Anatomy,' fasc. xiii). But the knowledge of the minute anatomy of the tissues, as well as the tissue changes in morbid processes, has been so much increased of late years by the aid of the microscope as to enable us to say that the changes during pregnancy are analogous to the natural growth of the part, and do not resemble those of the inflammatory process.

Cruveilhier's description of the condition of the uterus after parturition, and of the subsequent changes which take place, appears to be founded on the same opinion that they

are analogous to those of inflammation. He describes the internal surface of the uterus as a vast solution of continuity, presenting gaping orifices like the open-mouthed vessels of an amputated limb, and produced by the removal of the mucous membrane, thus leaving the muscular tissue everywhere exposed. The surface then becomes covered with a new or false membrane before it is cicatrized, the new skin being formed in about six weeks or two months. This process of reparation being accompanied by traumatic fever and discharge, at first sanious and fœtid, then more purulent, and finally thin and serous, the quality and quantity of the discharge being, as in amputations, an index of the state of the wound.

There are obvious objections to this account, although it has been adopted by different eminent authors. Only a portion of the tissue at the inner surface comes away; the internal membrane is, therefore, not entirely removed, nor is the muscular tissue everywhere exposed. No false membrane is formed, no new skin is produced, nor are the actions analogous to those which take place at the healing of a stump after amputation. All this now appears certain, yet, as Cruveilhier has remarked, "the secondary evils of amputations are so similar to those of the puerperal state." "All the injuries observable in amputations may follow the uterine wound, viz. phlebitis, pus in the lymphatics, pleurisy, inflamed synovial membrane, inflammation of the muscles, œdema dolorosa, erysipelas, besides those which are derivable from the changes undergoing in the peritoneum and the bulb of the uterus." What, then, is the similarity between these two states which give rise to these analogous secondary evils? It may, I think, be taken as admitted that the "injuries observable after amputations" are the consequences of an injurious impregnation of the general system through deleterious fluids entering the circulation. And although these fluids may gain an entrance into the circulation from different sources, yet the chief sources are the veins of the limb which has undergone amputation. A similar condition of the parts may exist, and frequently does exist, in

the uterus after parturition when the organ is not sufficiently contracted to prevent all fluids from passing along the venous sinuses. When this condition occurs it is not unfrequently attended with hæmorrhage after parturition, though this may be absent, and afterwards the pervious sinuses admit the secretions from the inner surface of the uterus to enter the system through their canals. But injurious impregnation may also arise from other causes—for example, laceration and subsequent inflammation of the parts, sloughing of the vagina from prolonged labour, pelvic inflammation extending into the neighbouring veins, &c. The latter, however, may be considered as accidents incident to childbirth, whilst the former, in the majority of cases, may be prevented. Hence after a parturition free from accidents any analogy between the condition of the uterus after childbirth and the stump of an amputated limb ceases when the uterus is firmly contracted, and in this state these secondary evils ought not to occur.

Further, as these secondary evils after amputations have been so largely reduced by the recent antiseptic treatment, so may we hope to reduce analogous evils after parturition by the obliteration of the canals of the venous sinuses aided, in proper cases, by the removal of all offensive discharges from the whole uterine canal through the use of antiseptic lotions.

Although the most serious and fatal diseases which follow parturition appear due to the introduction of injurious fluids into the general system, still they are not the only diseases met with after childbirth. Pregnancy does not render the woman exempt from any other disease. She may at the same time suffer from any disease of the general system, or from any local disease of any organ, and these diseases may become intensified after parturition. She may be attacked with any acute specific disease, and too often does become affected with them with such apparent facility as to raise the question whether she may not be more liable to such infection at this period than at any other time. But our increased knowledge of disease, accompanied by a more accurate diagnosis of the in-

dividual affections, appears to justify the important conclusion that there is no disease specially due to, or confined to, the puerperal state—no distinct or separate disease, so eminently infectious or contagious as has been so frequently described under the term—Puerperal Fever.

DESCRIPTION OF PLATE VI.

Fig. I. Tissue from the inner surface of the uterus, which was in a soft or pulpy state, showing the round or oval corpuscles, enlarged after pregnancy, the molecules and granules in amorphous tissue, with the columnar epithelium variously modified.

Fig. II. Soft tissue at the inner surface of the uterus, as seen on a thin section; the round or oval corpuscles enlarged after pregnancy, and the ciliated columnar epithelium cast off, either from disease, or in the manipulation of the preparation.

Fig. III. Small band of contractile fibre-cells from near the inner surface of the uterus, with soft tissue lying on the surface; the round or oval corpuscles enlarged after pregnancy.

Fig. IV. Small band of contractile fibre-cells from the centre of the walls of the body of the uterus, with soft tissue lying on the surface; the round or oval corpuscles enlarged after pregnancy.

a
d
e
a
d
d
b
b
b
b
c
c
c
c
c
c
d
b
b
c.f.m.
137

DESCRIPTION OF PLATE VII.

Longitudinal section of the entire walls of the body of the uterus drawn carefully from the preparation by the aid of the outer lines of a micrometer and an inch object-glass. The centre of the preparation is occupied by what appears to be uterine tissue in an advanced stage of fatty degeneration. The dark line at the lower end shows a section of the peritoneum, and the irregularity at the other part was caused by the section of the walls being here imperfect.

a, a. Soft tissue at the inner surface. It lines the whole of the inner surface to the depth of about one twelfth of an inch, and extends into the substance lying amongst and at the outer surface of the bands of contractile fibre-cells. It is seen at different points through the whole of the substance to near the external surface.

b, b. Bands of contractile tissue in which the fusiform fibre-cells are arranged longitudinally to the long axis, *i. e.* from the fundus to the orifice.

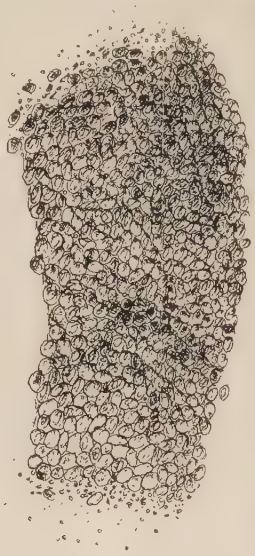
c, c. Bands of contractile tissue in which the fusiform fibre-cells are arranged round the organ, either at right angles to the long axis, or in varying oblique directions. The fibre-cells are cut across, or divided obliquely.

d, d. Portions of soft tissue in the walls of the uterus, lying either on the surface of the longitudinally arranged fibre-cells, or around the bands where the fibre-cells are divided transversely.

e. Orifice of an utricular gland. The end towards the uterine substance presents a bulbous enlargement which is lined with square columnar epithelium.

. I.

Fig. II.



G. III.

Fig. IV.

HELIOTYPE.

NOTES OF CASES.

By D. Lloyd Roberts, M.D., M.R.C.P. Lond.,
PHYSICIAN TO ST MARY'S HOSPITAL, MANCHESTER.

Submucous fibroid of the uterus; écrasement; recovery.

Mary H—, æt. 41, married; three pregnancies; admitted into St. Mary's Hospital December 19th, 1870. Two years before her admission she observed a discharge of clotted blood with occasional pieces of skin, as she termed them, which recurred every fortnight, sometimes oftener; it was accompanied by continued bearing-down pains at the lower part of the back, extending down the inner portion of the thighs. She was compelled to take to her bed about eighteen weeks before she came into hospital. On admission she was so exhausted that she had to be carried upstairs. Pulse 120, small and weak; respiration hurried; micturition difficult, so that she had been accustomed to be relieved with the catheter by a midwife. On examination per vaginam a round, irregularly shaped mass was found protruding through the patulous os uteri, which was dilated to about the size of two inches; uterus enlarged, measuring four and a half inches by sound. The tumour was fixed to the anterior wall of the uterus by a broad attachment three inches by two inches. There was slight anteflexion. The tumour pressed on the neck of the bladder, which was the cause of the frequent retention of urine. The lower part of the tumour was ulcerated and sloughy, with a considerable amount of sanguineo-purulent discharge. On January 12th, 1871, the single-wire écraseur was passed round the growth within the uterine cavity. The wire was passed slowly and with difficulty through the tumour; there was no hæmorrhage after its removal. A month after the operation the veins of both legs became distended and knotty, and the legs and feet were very much swollen and glistening. These symptoms gradually subsided by rest, warm fomentations, and support by bandages, so that by the 17th of March they had totally disappeared. During this attack the tongue remained

moist and clean; bowels relaxed; urine, which was freely passed, was highly acid, and of an average specific gravity of 1010, frequently contained mucus, no albumen.

Remarks.—This case furnishes us with several points of interest. It forms a good illustration of the safety with which écrasement may be practised for the removal of intra-uterine tumours even when they have broad attachments. Without such a method of operating this woman must have perished.

All the distressing symptoms previously complained of subsided immediately after the operation, no hæmorrhage occurring either during or after the removal of the tumour. The swollen and glistening state of the limb, with distended and knotted veins which retarded her convalescence, were probably owing to inflammatory changes in the coats of the uterine branches of the hypogastric veins due to bruising by the écraseur during the operation, and if this takes place with this instrument what would have been the result by the slow process of removal by ligature?

Fibro-cystic tumour of the uterus weighing 23lbs. removed by abdominal section; recovery.

Margaret M—, æt. 32, single, admitted into St. Mary's Hospital May 8th, 1871. The abdominal enlargement, oval in form, forty-three inches in girth over the umbilicus, fluctuates tolerably distinctly over the whole of its surface. Uterus is higher in the pelvis than normal; os uteri pushed slightly towards the pubes. Uterus movable, being raised with the tumour which was itself slightly movable by external manipulation. No souffle or thrill was detected over the tumour. On May 9th, 1871, I proceeded to remove what was supposed to be a polycystic tumour of the ovary. The abdomen was opened by a small incision of three inches; some firm adhesions between the tumour and abdominal wall were broken down. A large syphon trocar was twice plunged into the tumour, but no fluid flowed through it. The incision was enlarged and the tumour brought out of the abdomen. The pedicle, three

inches broad and very short (one inch), was with difficulty secured in the largest circular clamp. The wound was closed by silk sutures. The clamp made considerable traction on the pedicle. Four hours after operation blood was oozing from the centre of the pedicle, the clamp not compressing it sufficiently. The hæmorrhage was stopped by the application of perchloride of iron. With the exception of some dysuria on the fifth and sixth days, she had an uninterruptedly good recovery, the clamp being finally removed on the twentieth day after operation. The tumour, which weighed twenty-three pounds, when cut into, was found to be a specimen of fibro-cystic disease of the uterus, attached by a short pedicle to the right side, close to the round ligament, the interior being one mass of fibrous tissue, with areolæ of various sizes between the meshes, containing a thin brown fluid, which would not run out unless the areolæ were cut into. Round the sides, where the areolæ are smaller, the tissue was condensed and harder. The fluid contained in the tumour was of a reddish-brown colour, density 1005. It contained nothing but disintegrated blood-corpuscles and débris. The right ovary and Fallopian tube (the former in an early stage of cystic disease), were firmly attached to the tumour, and were found to have been removed with it.

Remarks.—I cannot imagine how an accurate diagnosis could have been arrived at in this case. The uterus was normal in size, and the displacement was not more than we constantly see in ovarian growths. The menstrual flow had recurred normally every four weeks. There was no history of flooding. Fluctuation was tolerably distinct over the whole of the tumour, and the growth itself was not without mobility; no souffle could be detected in it. I could not discern any difference in its colour when the abdomen was opened—indeed, this was not evident when carefully examined after its removal. The only peculiarity which attracted my attention was the volume of the pedicle. The case illustrates the fact that these growths may be removed in some cases without much constitutional distress. I think the result was largely owing to the fact of my being able to

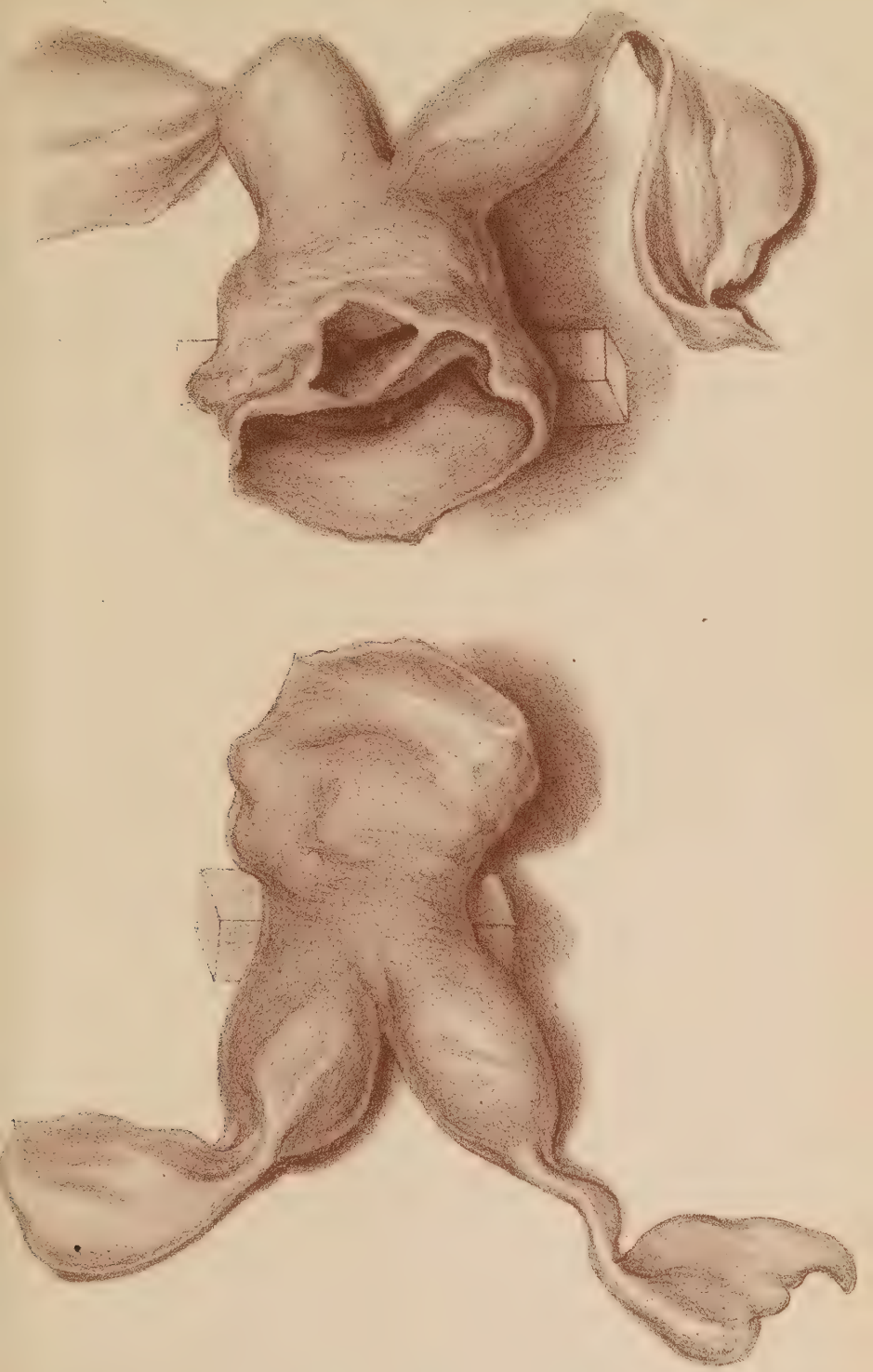
bring the pedicle outside the abdomen, for if the hæmorrhage which occurred from its centre had not been promptly stopped, and had otherwise taken place into the abdomen from the ligature relaxing its hold or giving way or cutting the pedicle, fatal hæmorrhage must have occurred. The case also illustrates the good effects of perchloride of iron as an hæmostatic in these cases. The Fallopian tube and ovary in proximity to these tumours are very prone to attachment to them. No doubt the pressure and irritation produced by the tumour on the right ovary were the cause of the early cystic degeneration assumed by it.

Bicorned uterus.

The specimen of bicorned uterus, which is well illustrated in the accompanying drawing, occurred in the practice of my friend Dr. Leech, to whose kindness I am indebted for the specimen and the following particulars of the case.

E. B—, æt. 21, unmarried, was a pale-looking girl of dull aspect who had been epileptic from the age of seven. Menstruation, which commenced at the age of thirteen, was usually scanty, and with two exceptions (June, 1870, and January, 1871) had always been regular. In September, 1870, she was in a condition of status epilepticus during her menstrual period, and had above sixty fits in three days, and during menstruation between 17th and 22nd May, 1871 (the day of her death), she had above ninety fits, after which she became comatose and died. At the autopsy she was found to be the subject of solitary kidney (the right), and both ovaries were much congested.

Remarks.—This specimen of bicorned uterus, is entirely double, with double vagina. The fundus and body of the uterus are divided into two halves, from the outer surface of each horn springs the ovary, oviduct, and round ligament, the junction taking place at the cervix, where the septum commences. It extends not only through the cervix, but to the extreme end of the vagina; this forms one of the highest degrees of division, there being two distinct conduits leading to two complete uterine cavities.



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